LAST MINUTE
OIL NEWS SECTION

Fast News by Teletype from Four News Bureaus

National Petroleum News

News from All Branches of Oil Industry Everywhere

VOLUME 29 WEDNESDAY, MAY 5, 1937 NUMBER 18

Renewal of 'Hot' Oil Law Seen as Hearing End

* * * * * * * * *

Standard Employes Hold to Own Unions

Reorganize on Dues Paying Basis

N. P. N. News Bureau

CLEVELAND, May 4.—A check of several large Standard Oil companies revealed today that their employes were rapidly reorganizing their company unions as a result of notices by Standard managements to employes that any financial help or other support of the company unions would be discontinued to assure compliance with the Wagner Labor Relations Act. The act was recently held constitutional by the U. S. Supreme Court.

Developments in Wyoming, Indiana, Ohio, New Jersey and California indicated an employe preference to perpetuate their company unions, although signatures of some Standard employes were reported obtained in scattered instances by the regular unions.

Company unions of Standard companies were in one or the other of three stages this week:

1. Meeting of central employe committees to effect reorganization.

2. Soliciting membership on a dues-paying basis.

3. Asking the company to recognize them as the bargaining agent for employes.

Companies' Position

The Standard Oil Co. of New Jersey has made public a statement of its labor position, which exemplifies statements of other Standard companies. The statement decries the use of labor spies and undercover agents, decries discrimination between union and non-union workers, and states that harmonious employe relationships are, after all, built on mutual confidence gained over a period of years.

The statement in full adjoins this article.

* * *

N. P. N. News Bureau

CLEVELAND, May 3.—Following a meeting here of 22 district members comprising the central committee of the Sohio Council, company union of the Standard Oil Co. of Ohio, the committee presented a demand to the company that it be recognized as the sole bargaining agent for Standard employes.

The Sohio Council further requested the Standard management to select a committee to meet with the union's representatives to negotiate an agreement on wages, hours and working conditions.

Asked if the management would meet with the union, A. M. Maxwell, vice president, replied, "You are anticipating a problem. McCowen (Howell H. McCowen, of Cincinnati, chairman of the Sohio Central Council) has got to go around to all the various divisions and plants before he can determine what his representation strength is."

Meanwhile members of the central council voted to reorganize the Sohio Council on a 50-cent a month dues-paying basis, an action necessitated April 22, when Maxwell advised the union that the company would discontinue all financial support in compliance with the Wagner Labor Relations Act.

"I look upon the dues as a privilege, not a levy," McCowen said. If the Sohio employes want representation with management they should be willing to pay for it.

"Under the new plan we pay for what we get and we get what we pay for. I might otherwise favor an A. F. of L. or other large union, because it is a larger organization. Racketeering is the big objection to outside unions."

The units of the Sohio Council comprise organizations in five

(*Continued on page* 21)

Witnesses State Proposed Tax On Fuel Oil is Discriminatory

By Teletype

By G. T. KELLOGG

HARRISBURG, PA., May 4.—Pennsylvania's coal interests, frankly trying to push through a discriminatory tax of two cents a gallon on fuel oil so they themselves might be benefitted, saw their arguments shot full of holes at a hearing before the Ways and Means Committee today when representatives of the oil industry, of the steel industry, of the oil burner industry, and of an army of housewives appeared with facts and figures.

Heading up the attack on the measure, House Bill No. 121, were Fayette B. Dow, general counsel of the Pennsylvania Grade Crude Oil Association and of the National Petroleum Association, and K. S. Purdy, representing the Pennsylvania Oil Burner Association and allied groups.

Dow presented a lengthy brief in opposition to the bill, but spoke extemporaneously from the floor, declaring he was glad that "our coal friends" have come out in the open and admitted that they want fuel oil taxed because it is hurting their industry.

Not Due to Oil

This, he said paved the way for him to show them that the falling off of the anthracite business was traceable in only a small degree to increased use of fuel oil.

After showing that many factors contributed to the decline in anthracite mining, Dow declared that the fuel oil tax bill could not possibly restore to work all the 56,000 anthracite miners now said to be idle—which was one of the coal witnesses' chief contentions for the bill.

Another important point made by the oil industry representative was that, assuming that the two-cent tax would result in decreased use of fuel oil in Penn-

(*Continued on page* 22—*Col.* 2)

Committeemen Favor Only Two-Year Extension

N. P. N. News Bureau

WASHINGTON, May 3.—The best that friends of the Connally law can hope for from the Cole oil subcommittee is a favorable report recommending a a two-year extension of the "hot" oil law, it appeared today, at conclusion of the hearings.

Several members, including Congressman William P. Cole, Md., chairman, have indicated that they have some amendments in mind.

Besides this, at least two members—Congressman Charles A Wolverton, New Jersey, and Samuel B. Pettengill, Indiana—have stated flatly that if the Connally law is to be extended, it should be only for two years.

Expects Limitation

Chairman Cole told newsmen after the hearings there is "strong probability" that a two-year limitation will be tacked on the measure. He pointed out that the Texas conservation law and the Interstate Oil Compact are limited to two years.

Additional brakes to prevent abuse of the Connally law by the states are needed, according to Wolverton and Pettengill. But they did not indicate definitely how they thought this could be accomplished.

Several members doubt the wisdom of shutting out oil imports by taxes, but the so-called oil tariff is not within the subcommittee's jurisdiction.

Opposition was expressed by Col. E. O. Thompson of the Texas Railroad Commission to Cole's suggestion that Texas—the only state where the Connally law is operating—should share enforcement costs.

"You mean pay for a policeman to watch us?" Thompson asked. "No, I wouldn't favor that—let it go first."

"Texas Can Handle"

Replying to a point-blank question, Thompson told the

(*Continued on* 24F—*Col.* 1)

U. S. Aid to Resale Price Laws Is Hit by Roosevelt

N. P. N. News Bureau
By A. M. PETTY

WASHINGTON, May 3. — President Roosevelt has dimmed any hopes that the "fair trade practice" laws, enacted now by 38 states, will be extensively used by the oil industry.

By tagging the Tydings-Miller bill a price-fixing and monopolistic measure, the President has all but blasted its chances, heretofore, excellent, of being passed by Congress.

Since the U. S. Supreme Court last December upheld the California and Illinois laws authorizing contracts fixing resale prices on branded products and making them enforceable against third parties, these fair trade practice laws, as they are called, have swept like a prairie fire through the state legislatures.

These laws held out hopes that retail prices of gasoline, lubricating oils and accessories at service stations might be fixed by contract between the supplying companies and the dealer.

Such legislation was necessary because most anti-trust laws, federal and state, prohibit contracts for resale price maintenance. The fair trade laws are simply enabling statutes, suspending the anti-trust laws or granting exemptions for such contracts.

Tydings-Miller Bill

The Tydings-Miller bill exempts from the federal anti-trust laws resale-price contracts in those states where such contracts are legal as applied to intrastate transactions.

Like the state laws, the Tydings-Miller bill is strongly backed by independent merchants in many lines; but the fight has been carried on principally by the retail druggists. Through contracts setting resale prices on branded goods, these merchants hope to stop the use of "loss-leaders".

Some manufacturers, urged on by these independent retailers, have entered into resale price maintenance contracts — despite the federal anti-trust laws.

Perhaps, they reasoned that the Roosevelt administration, which favored similar steps against "loss-leaders" during the days of NIRA, would not invoke the anti-trust laws to thwart such efforts; especially, since 38 states had lifted all restrictions on such contracts for intrastate sales.

But, generally speaking—and this goes for the oil industry, too—there is no great disposition to make use of these state laws to fix resale prices, it is believed.

FDR Opposes Bill

The day before the House was to take up—and probably pass by a good majority — the Tydings-Miller bill, a letter from the President was received by Speaker William Bankhead urging that consideration of the measure be deferred pending a study by the Federal Trade Commission.

The President quoted from a letter from Chairman W. A. Ayres of the Federal Trade Commission, as follows:

"There is great probability that manufacturers and dealers may abuse the power to arbitrarily fix resale prices by unduly increasing prices, resulting in bitter resentment on the part of the consuming public, especially in this period of rising prices."

Attached was complete text of Ayres' letter which declared that the Tydings-Miller bill and the state fair trade practice laws were "directly and irreconciliably" in conflict with federal anti-trust laws.

"Monopolistic Measure"

Later, at his press conference before leaving on his fishing trip, President Roosevelt commented further, saying that anyone reading the Tydings-Miller bill could see that it was a price-fixing and monopolistic measure.

Independent merchants backing the bill may be pardoned for wondering why the White House waited until four-fifths of the states had passed fair trade laws and Congress was on the verge of providing the needed federal co-operation, before making known its adverse views.

It was this same group of independent merchants which jammed through the Patman anti-discrimination bill and virtually forced the President to reluctantly approve it.

While sponsors of the Tydings-Miller bill insist that "the fight has only begun", it is generally recognized that only by a miracle could it get by Congress over the President's veto which seems assured now.

Dangerous Now

The attitude manifested by the Administration makes it somewhat dangerous for any manufacturer or distributor operating across state lines — in interstate commerce — to enter into such resale-price contracts now, without the protection which would have been afforded by the Tydings-Miller bill.

And with the broadening of the interstate commerce definition in the recent Wagner Law decision of the Supreme Court, there is no telling how far the federal anti-trust laws might be strained in an attempt to catch a jobber, operating entirely within a single state but receiving his supplies from outside the state. Even if the courts threw out the case, there would be the expense of fighting it.

Oil Not Interested

Even before President Roosevelt "stomped" on the Tydings-Miller bill there was not much interest apparent in the oil industry in state fair trade practice laws—at least so far as setting retail prices for gasoline, according to a survey by National Petroleum News.

First off, the National Ass'n. of Petroleum Retailers, while favoring resale price maintenance for lubricating oils, tires, batteries, spark plugs and other accessories, felt that it would not be practicable as regards gasoline.

Having shed responsibility for maintenance of retail prices in adopting the so-called Iowa Plan, it is unlikely that the major companies would voluntarily assume the burden again —when all that is involved is taken into consideration.

While the state fair trade laws give other dealers the right to sue and enjoin another retailer, handling the same brand, from cutting the price, the dealers probably would look to the supplying company to police the stations and take legal action to enforce prices set in the contracts.

"Miracle Workers"

Asked for his opinion of resale-price contracts, the operator of one large string of stations in an area ridden by recurrent price wars declared he was for anything which would forestall "these miracle-working dealers with a 4-cent margin selling 4 cents below the market."

But on reflection this dealer decided that such contracts would not work for gasoline. It would be the old story of the NIRA code days repeated, he said. Legitimate dealers would abide by the established posted price but the chiselers would keep on giving discounts, reaping a harvest as the other dealers' hands would be tied.

There are some oil marketing authorities who doubt that gasoline is covered in many of the state resale price laws.

Resale prices, under these laws, can be set and enforced on the sale of a commodity which "bears, or the label or container of which bears, the trade mark, brand, or name of the producer or distributor of such commodity."

Tank Car Deliveries

How about gasoline delivered in tank cars to a bulk plant or service station, and gasoline dispensed from an underground tank through a pump bearing a globe with a brand-name on it?

There is considerable doubt as to whether gasoline, with such laws strictly construed, would be covered.

There is no question but that canned lubricating oil, emblazoned with the name of the manufacturer or distributor, could be made the subject of resale price maintenance contracts, and similarly, with batteries, tires, spark plugs and other accessories.

The National Ass'n. of Independent Tire Dealers, Inc., has been waging a campaign to have all the tire companies enter into resale-price contracts. But the President's adverse action on the Tydings-Miller bill may make the tire companies hesitate.

Another obstacle to such contracts for gasoline prices are the chain-store tax laws. In Iowa, for example, there is a resale-price maintenance law. But suppose the supplying company attempted to enter into such contracts or enforce them against operators of its leased stations. Would that not be "controlling" the price so as to make such stations part of the "chain" for purposes of the chain-store tax? And how about social security taxes?

FTC Delays Rules For Oil Industry

WASHINGTON, May 3.— Officials of Federal Trade Commission's Trade Practice Division hold out small hope that the proposed fair trade rules for the petroleum industry will be acted upon anytime soon.

Called upon by two members of the three-member industry code committee, Paul E. Hadlick, secretary of National Oil Marketers' Association, and Wilmer R. Schuh, president of National Association of Petroleum Retailers, the trade practice officials said the code is being "considered."

It has been in this same status since July 17, 1936, when it was first proposed, and the object of the call at FTC by Schuh and Hadlick was to urge action. Trade practice attaches said they would convey the request to the commission members.

Texas Co. Denies Charge of Unfair Selling Methods

N. P. N. News Bureau

WASHINGTON, May 3.—Denying virtually all charges of "unfair methods of competition" contained in the Federal Trade Commission complaint issued March 12, The Texas Co. has filed an answer with the FTC asking that the case be dismissed.

Texaco was charged with violating the exclusive dealing provisions of the Clayton anti-trust law through leasing of service stations where Texaco products are sold and making sales to lessees, licensees and contracting dealers allegedly on the condition that they not sell merchandise of certain other competitors.

The company was charged with entering into contracts with certain manufacturers to purchase tires, spark plugs and accessories to be distributed, for the most part, through its lessees and dealers, with the oil company receiving a commission of the sales.

Sales Intrastate

In its answer Texaco declares that substantially all sales of its products are made wholly within the borders of certain states, and that its business in this respect is purely local, or intrastate, and not within the jurisdiction of the Federal Trade Commission.

Texaco denies it "forced upon" its lessees or contract dealers, or "upon any filling station operators not its employes," any of the accessories cited, on the condition that they not deal in any competitors' products.

Texaco admits it entered into contracts with the B. F. Goodrich Co. and Firestone Tire and Rubber Co. "whereby it agreed to purchase tires, tubes and batteries for its company-owned and operated retail outlets, and whereby it also agreed to urge lessees and contract dealers in certain areas to purchase from said companies."

Contracts Cancelled

But these contracts were cancelled Oct. 31, 1936, before the FTC complaint was issued, Texaco says.

As for the other products, the answer says Texaco "entered into contracts" with Handy Governor Corp., Anderson Co., Champion Spark Plug Co., and Westinghouse Lamp Co., but that these are no longer in effect, having expired before issuance of the complaint. The answer does not reveal the nature of the contracts.

The Texas Co. has in the past sold spark plugs, windshield wipers, oil filters and light bulbs, the products of the manufacturers named in the complaint, "but discontinued the sale or distribution in December, 1936," according to the answer.

Further answering the complaint, Texaco denies that its contracts with lessees or contract dealers are made for short periods of time and are subject to cancellation by the company, and also denies that "said lessees or contract dealers are subservient to the wishes of the respondent (Texaco) as to the conduct of their business."

Oil Not Mentioned As War Commodity

By Teletype
N. P. N. News Bureau

WASHINGTON, May 4.—Oil is not mentioned in the proclamation of President Roosevelt under the new "cash-and-carry" neutrality law against the warring factions in the Spanish Civil War.

Like the old law, the definition of war materials subject to ban on shipments to belligerents does not, apparently, include petroleum or its products.

However, the President in his discretion may put oil, along with wheat, cotton and other materials essential to the conduct of a war, on a "come-and-get-it" basis as far as belligerent countries and factions in civil strife are concerned.

Tankers Could Come

In other words, if the President sees fit, he can prohibit shipment of oil to belligerent countries; but there is nothing to prevent those countries sending their tankers to the U. S. to pick up their purchases here.

Also subject to ban are shipments of oil in excess of "normal" trade to neutral countries which might re-ship it to countries at war.

Pipeline Bill

First pipeline divorcement bill (HR-6794) to be introduced in the House in several years has been dropped in by Congressman J. B. Daly, Philadelphia.

Daly, who is also author of another bill (HR-6806) to repeal the excise taxes on imported crude and petroleum products, is a new comer in the field of oil legislation.

Senator Alben W. Barkley, Kentucky, is pressing for early action by the Senate on either his anti-pollution bill or the Vinson bill, which has passed the House. Both bills provide for a study of stream pollution by the U. S. Public Health Service and for loans and grants to states, cities and private industries to build purification plants. Neither bill has any provisions for federal regulation.

Early consideration of the Lea bill to regulate interstate transportation and sale of natural gas is being sought. The bill has been favorably reported by the House Interstate Commerce Committee.

Rules Out S.O. Indiana In Blausteins' Suit

N. P. N. News Bureau

NEW YORK, May 4.—The Standard Oil Co. of Indiana does not come under the jurisdiction of the New York courts and cannot be a defendant in the suit brought by Louis and Jacob Blaustein of Baltimore, officers and directors of the Pan American Petroleum & Transport Co., according to a ruling here yesterday by Supreme Court Justice Charles McLaughlin.

The suit, which was brought against the Standard Oil Companies of Indiana and New Jersey and various officials in the Pan American Petroleum & Transport Co., charged the restraint of trade and violations of company agreements. The Blausteins, through the American Trading and Production Corp., now hold approximately 20 per cent of the stock of the Pan American company, and the Standard of Indiana owns about 70 per cent.

Purpose of Suit

The purpose of the suit, as stated in the bill of complaint, is "to require restitution to Pan American Petroleum & Transport Co. of large sums of money and valuable properties, of which it is charged the defendants deprived the company, and also to establish the right of the Pan American Petroleum & Transport Co. to conduct and operate itself as an independent, integrated oil company, free of Standard Oil domination and free to compete with them."

The ruling by Judge McLaughlin apparently does not change the status of the other defendants in the case.

Johnson Moves Offices

CHICAGO, May 4. — Johnson Oil Refining Co. has moved its general offices to the Chicago Civic Opera building at 20 North Wacker Drive. In its new location the company has 5600 square feet of space. All offices in the new location have much more natural light than in the old location.

New Knock Test Method by Ethyl Corp. Announced

N. P. N. News Bureau

NEW YORK, May 3.—Proposed knock test method specifications, designated as the L-3 method of test, have been announced by Ethyl Gasoline Corp. in letters to its licensees. This method has been developed by co-operative work between the Ethyl laboratory and a large number of licensees. It is as reproducible as the A. S. T. M. or so-called Motor Method and gives a rating more in accord with average automobile engine performance than does the older standard method, the company announces.

Licensees are to be given the option of using this method in place of the old method in rating gasoline using "Q" and Ethyl fluids, it is stated. The maximum and minimum ratings by the new method for "Q" and Ethyl fuels have not been determined, but will be announced by May 31. These new limits will not become effective before June 30; the effective date will be announced on May 31, the company stated. The intervening time has been requested by licensees to discuss further the application of the new method.

The new method is similar to the standard method known as the Motor Method, with the following exceptions in the new method; mixture temperature, 260°F.; spark advance at 5:0 to 1 ratio, 16°; compression ratio for Standard Knock Intensity, (corrected for barometric deviation), 5.5 to 1.

Any of the following three blends are suggested for reference fuels: 65% iso-octane, 35% n-heptane; 64.5% fuel C-10, and 35.5% fuel A-5; 63.5% fuel C-10, and 36.5% fuel A-4. The latter two blends are based on Motor Method calibrations, and are tentative, doubtless to be corrected to more exact values by the new method as soon as possible. Octane numbers will be read for the present from the Motor Method calibration curves of the secondary reference fuels.

While comparative rating data for the old and new methods are not yet available for publication, it is reported by some refiners that the new method shows generally higher ratings for cracked fuels than does the Motor Method. Reports also say that the effect of the change in method is more pronounced on winter than on summer fuels.

Report Sun Oil -Union at Odds On Retail Price

BULLETIN

CLEVELAND, May 4. — Retail price differentials were expected to be ironed out tomorrow as the Standard Oil Co. of Ohio announced a one-half cent price reduction, less than a week after advancing its statewide wholesale and retail gasoline price schedule a similar amount.

* * *

N. P. N. News Bureau

CLEVELAND, May 3.—Observant motorists here puzzled as posted prices at a number of Sun Oil Co. stations, all leased, failed to follow a one-half cent increase of other major stations on April 29, met the increase April 30, dropped back to the original 19-cent price for the next two days and stood at 19.5 cents today, Monday.

These price antics were explained by dealers as the result of a tug-of-war btween their association and the attendants union, on the one hand, and the local office of the Sun Oil Co. on the other.

Standard Oil Co. of Ohio, customarily the price leader in this area, advanced the tank wagon price one-half cent to 16 cents for undivided dealers on regular grade April 29. Likewise it increased its posted retail price at company-owned stations a similar amount to 19.5 cents. Most majors followed suit.

Sun, however, has continued to supply dealers at tank wagon 15.5 cents.

After visits from men who said they were members of the Master Gasoline Operators Association, Inc., the dealer association, and the Gasoline Station Operators Union, comprising attendants and lessees, many Sun dealers reported they were persuaded to raise their price to that at stations selling other brands. Thus they enjoyed a four-cent margin, one-half cent greater than other dealers.

On the Other Hand—

The dealers then reported that company salesmen pointed out that trackside stations were selling at the customary price and that an increase would widen the trackside spread just that much further. Accordingly, many dealers dropped their price back to 19 cents.

A check made this morning indicated that the greatest number of 19.5 cent stations were in the city, while rural territories, where few dealers are members of either the union or the operators association, the price was 19 cents.

C. E. Doud, district manager here of the Sun Oil Co., stated that, since all dealers were lessees, it was their affair as to what price they posted.

"Of course, we don't want gallonage diverted to cut price stations," he said.

It has been the position of major companies here for some time that a four-cent margin merely diverts gallonage to trackside stations, causes secret rebating off the posted price, and encourages building of still more stations.

Gust C. Linsenmann, a Sun dealer and vice-president of the Master Gasoline Operators Association, Inc., said that prices of all dealers would have to be lined up or their organization would be disrupted.

The Master Gasoline Station Operators Union has favored wider margins for dealers, Phil Hannah, secretary, said, both because of its lessee membership and preparatory to negotiations for wage increases for attendants employed by Linsenmann's membership.

Supreme Court Grants Writ for Oil Case

By Teletype
N. P. N. News Bureau

WASHINGTON, May 3.—The U. S. Supreme Court today granted a writ of certiorari in a case where Texas is seeking to confiscate some alleged illegally-produced oil already in the possession of David Donoghue, said to be trustee in bankruptcy for the Trinity Refining Co., being reorganized under Section 77-B of the Bankruptcy Act.

The Supreme Court will have no chance to pass on a suit brought by a Massachusetts gasoline retailer against Socony-Vacuum Oil Co., and Standard Oil Co. of New York, charging that giving longer margins to undivided dealers is a violation of the Clayton anti-trust law. The suit was dismissed by counsel last week.

Another ruling by the high court was that the Alabama franchise tax is valid as applied to pipelines of the Southern Natural Gas Corp., which had contended that the levy was unconstitutional.

Chain Store Tax

LANSING, Mich., May 4.—H. B. 21, introduced in the Michigan legislature by Representative Teachout, provides for an amendment to the present state law on chain stores, which would strike out the clause exempting service stations. Latest reports are that the bill is still in a house committee.

Texas Considers Restrictions On Use of Sour Gas

N. P. N. News Bureau

TULSA, May 3.—Efforts to get the Texas legislature to put further restrictions on the use of sour gas, a step many operators have felt was necessary as a result of the extensive development of the sour gas field in Moore county the past year, apparently is moving slowly toward a conclusion.

Several days ago the senate passed S.B. No. 407, after it had been amended to the point where it appeared acceptable to a majority of the conflicting interests in the Panhandle. This measure would limit withdrawals of sour gas from a common reservoir for carbon black manufacture to 750,000,000 cubic feet daily.

It also provides that a natural gasoline plant operator who comingles casinghead gas with either sweet or sour gas must have a permit to be issued by the Texas Railroad Commission after that body has determined how much gas it is necessary for the plant to blow to the air in order to provide uninterrupted deliveries to the carbon black plants. The commission would have authority, under the provisions of the bill, to prorate the sour gas and to regulate the operations of the natural gasoline plants.

March Figures

In March the "take" of gas by carbon black plants averaged 703,197,000 cubic feet daily, while casinghead gas produced amounted to around 300,000,000 cubic feet daily. It was believed by many proponents of the measure that this total of over a billion cubic feet of gas daily would be more than adequate to take care of carbon black plant requirements for some time to come.

When the measure reached the house an amendment was added which limited the withdrawals of sour gas for all purposes to 750,000,000 cubic feet daily. Another amendment would authorize owners of sweet gas wells not having connections within 120 days to apply to the commission for permission to sell 10 per cent of the well potential for utilization as now permitted for sour gas.

In some quarters this amendment was seen as a move to appease the owners of wells in one section of the sweet gas area who cannot get connections to the gas pipeline companies because of the fact well pressures are so low that the pipelines would have to put in booster stations, an expense they do not have to incur because pressures re still sufficiently high in other of the sweet gas areas to permit direct connection to trunk lines.

The amendment provided a "stop" however in the use of sweet gas in the same manner as sour gas provided no connection is obtained, by limiting the amount of sweet gas a natural gasoline plant uses to one third of the total volume of residue used by the plant for carbon plant manufacture.

Parley Deadline Extended 16 Days

N. P. N. News Bureau

CLEVELAND, May 3.—Having reached an agreement with petroleum truck drivers that negotiations will be continued "without trouble" until May 16, a number of major oil companies here today launched into a second series of parleys—with the attendants' union.

The present memorandum or agreement with the attendants, union, the Gasoline Station Operators Union, expires May 15. This union and Local No. 545 of the Petroleum Truck Drivers and Helpers Union last week signed a pact for "mutual aid and assistance whenever necessary."

As reported previously, the crucial issues in truck driver-company negotiations, now completing their second month, are the closed shop and a $20 a month wage increase demanded by the union. The companies are reported to have offered a $7.50 a month increase on the top classification of $142.50 a month for drivers of four years' experience total $150. An offer of $2.50 a month increase was made on for less-experienced drivers, it was said.

* * *

To and Fro

About 14 drivers are directly involved in negotiations at Mansfield, O., between the truck drivers union and four companies. Sufficiently important are these parleys, however, as setting a rough yardstick for wages in other towns of 30,000 or less, that the union sent down its ace negotiators from Cleveland—as did the companies.

These negotiators solemnly continue to drive 72 miles to Mansfield and back—144 miles—every Monday to continue the parleys, meet on other days of the week at Cleveland to negotiate wages of drivers here.

New Denaturing Formula Reduces Cost of Alky-Gas

By Telegraph

OMAHA, Nebr., May 3.—Governmental sanction on April 3 of a new alcohol denaturing formula has resulted in a change in the nature of Agrol fluid shipped from the experimental power alcohol plant at Atchison, Kans., so Dr. Leo. M. Christensen, secretary-treasurer of the Chemical Foundation of Kansas, disclosed in an address before the mid-west regional meeting of the American Chemical Society here April 29.

Under the new formula the cumulative denaturing expense per gallon of power alcohol is said to total 2.5 cents per gallon at the point of distribution, as compared to 6 cents formerly. Agrol fluid for blending with gasoline now comprises 78 per cent alcohol, and 22 per cent denaturants, only 0.8 per cent of which is gasoline. Prior to April 3, Agrol shipments contained 54 per cent denaturants 50 per cent of which was gasoline, and only 46 per cent alcohol.

Principal blame for last winter's failure of the Atchison plant to reach anything in line with its scheduled power alcohol production was placed by Dr. Christensen on the heavy denaturing expense entailed by the old formula, although he admitted that the scarcity and high prices of farm raw materials for alcohol manufacture, would have presented a grave problem regardless.

Prospects Encouraging

Expressing the view that prospects were encouraging for a wider distribution and accelerated production of power alcohol, Christensen declared that recent distribution of alcohol-gasoline included Kansas, Nebraska, Missouri, South Dakota, Minnesota, and central Iowa. No information was advanced on the number of outlets handling alcohol-gasoline in the various states, the gallonage sold, nor the percentage of total gallonage in the respective states accounted for by alcohol-gasoline.

Three current methods of distributing power alcohol were outlined in the address. Best possibilities were seen for blending the alcohol (Agrol fluid) with gasoline at bulk stations under careful supervision, as is now practiced in Nebraska. Blending in transit is still employed despite the higher freight rates incurred. A third method used is to truck Agrol from Atchison to the refinery for blending, although even this method does not avoid some additional transportation charges.

According to Christensen, most of the alcohol at the Bailor plant at Atchison is currently made from Louisiana raw materials, assumedly black strap molasses, and these will continue to be used until other raw materials are available.

Crop Experimentation

Ten different crops were experimented with during the winter to determine their alcohol and protein yields, it was stated, including corn, oats, barley, rye, milo maize, molasses, brown rice, sweet potatoes from Virginia and North Carolina, and Jerusalem antichokes.

It was announced that sufficient data is now available to give anyone wishing to start new power alcohol manufacturing ventures complete information on the equipment needed, the cost of manufacture, yields obtainable, and so on.

The problem of assuring an adequate supply of farm raw materials for alcohol manufacture apparently remains unsolved. Efforts to contract crops before planting at stipulated prices were reported to have met with poor response from farmers.

British Solvent Plant May Be Refinanced

LONDON, April 26. — Negotiations for the purchase, by several companies, of the Duo-Sol solvent extraction unit built last year by Herbert Green & Co. at East Halton, England, have come to nought so far, according to advices obtained from local sources. One financial organization is still negotiating, it is reported. A group of American technical experts is supposed to have sailed for England about the middle of April, to inspect and make a report on the plant for those interested in re-financing the project.

If this report is favorable, it is understood that adequate financing for the Green company will be available. That company has been in receivership for some months, and its head, Herbert Green, has been seriously ill since about Christmas, although reported now well on the way to recovery.

This plant, rated at about 1200 barrels per day of reduced crude for the manufacture of lubricants, has operated only intermittently, and seldom at capacity. Reports say that many troubles developed during the trial period, troubles with emulsions in the extractors and in other control matters. Competent technologists are of the opinion that these troubles were doubtless similar to the problems arising during the initial operations of any new unit, and were probably aggravated by the lack of experience of most of the force which operated the plant, and that with experience and the correction of small problems the plant would have operated as well as any of the several units now in use in America.

Call Special Meeting Of Compact Board

By Teletype

TULSA, May 4—A special meeting of the Interstate Oil Compact Commission has been called for May 10 at the Roosevelt Hotel, New Orleans. Chairman Ernest O. Thompson, member of the Texas Railroad Commission, said the purpose of the meeting was to plan for ratification by compacting states of the two-year extension of the compact and the certifying of such action to the President, with the request that he ask Congress to approve the extension.

Five of the states now in the compact have approved the extension and the sixth, Illinois, has such a measure pending in its legislature.

Seek Oil in Britain

LONDON, April 24. — Nineteen more prospecting licenses to search for oil in Britain have been issued by the British Board of Trade.

Of these, 10 licenses have been granted to the D'Arcy Exploration Co., covering a total area of approximately 1,649 square miles in Kent, Sussex, Surrey, Yorkshire, Nottingham, Derbyshire, Staffordshire, Shropshire and Cheshire Counties.

The other nine licenses have been granted to the Gulf Exploration Co., and cover areas aggregating 1,277 square miles in Kent, Sussex, Dorset, Wiltshire, Somerset, and Yorkshire Counties.

The D'Arcy Exploration, which is a subsidiary of the Anglo-Iranian Oil Co., Ltd., has been drilling in various parts of the United Kingdom for more than a year and has also acquired licenses to operate in Scotland.

More Intervene In 6.6 Lbs. Case

N. P. N. News Bureau

WASHINGTON, May 3.—Indications that the Minneapolis hearing on the reasonableness of the 6.6 pounds per gallon estimated weight of gasoline used by rail carriers will uncover sharp differences of opinion among refiners — and even among major oil companies— are seen in the steadily growing stack of orders permitting intervention being issued by Interstate Commerce Commission.

Latest to file petitions to intervene in the case which probably will be heard by an ICC examiner within two or three months, are Wadhams Oil Co., Milwaukee, Wis., and Perfect Oil Corp., La Crosse, Wis.

The 6.6 controversy was opened up by the filing with the Interstate Commerce Commission early last month of a complaint by Tankar Gas, Inc., Minneapolis, charging that the estimated weight of 6.6 pounds per gallon was far above the actual weight of gasoline received by Tankar at Minneapolis and asking that the commission revise the estimate downward and fix reparations which Class I railroads should pay to Tankar for "overcharges" resulting from the estimate.

Since that time a dozen or more refiners and major companies have been given leave to intervene and become parties to the case, although only four or five have filed "affirmative petitions"—petitions in which the allegations of the complaint are adopted as the petitioners' own.

Others Noncommittal

Refiners whose principal products have an actual weight in excess of the estimated weight on which their freight charges are based, may oppose the change in the estimate for gasoline because of the effect it might have on rates on other products.

Besides Wadhams and Perfect, intervenors who have asked that they be granted the "same relief and remedy" as Tankar, should the ICC declare the estimated weight of 6.6 pounds excessive, are Cities Service Oil Co., Empire Oil & Refining Co., and Shell Petroleum Corp.

Other intervenors include Arkansas Fuel Oil Co., Col-Tex Refining Co., Anderson & Prichard Refining Corp., Lion Oil & Refining Co., Midcontinent Petroleum Corp., and the Kansas Oil Traffic Committee, a group of seven Kansas refiners, each of whom will take up his contentions individually.

National Petroleum News

Copyright 1937 by The National Petroleum Publishing Co.
Trade Mark Registered U. S. Patent Office.

Published every Wednesday by The National Petroleum Publishing Company

FOUNDED 1909

Warren C. Platt, *Editor and Publisher*
V. B. Guthrie, *Managing Editor*
A. E. Waldorf, *Advertising Manager*

Member of Audit Bureau of Circulation and Associated Business Papers, Inc.

Publication office: 1213 W. Third Street, Cleveland, O.
Telephone, CHerry 7672—Cable Address, Plattoil, Cleveland

NEWS BUREAUS

New York, 50 W. 50th Street, Telephone, COlumbus 5-1516 and 5-1517
Chicago, Buckingham Bldg., 59 E. Van Buren St., Telephone, Harrison 5901-2-3
Washington, D. C., 1002 National Press Bldg., Telephone, NAtional 0654
Tulsa, Okla., 904 World Bldg., Telephone 3-7132
Los Angeles, 610-A Hillstreet Bldg., 815 South Hill St., Telephone VAndike 2845

Subscription rate $2 per year in United States and Mexico; $3 in Canada; $3.50 Foreign Countries. Current copies 10 cents; back copies more than two months old 20 cents per copy.

To The W.P.R.A.

Last week the Western Petroleum Refiners Association held its 25th birthday party at Hot Springs, Ark. As a matter of fact the association could have gone some five or more years further back to what might properly be called its predecessor association, the Oklahoma Independent Refiners Association.

But either way, it is a long stretch back to the beginning of the refining industry in the vast Mid-Continent field and to the beginning of the Independent jobber of the middle west.

Twenty-five years ago the Independent refiner was anything but numerous, or strong. About all that could be said for him was that he was a hardy, venturesome soul who had a couple of small rusty shell stills, a condenser box whose pipes leaked, an agitator that was always blowing off and some tankage but nevertheless he was the proud manufacturer of three products—a little sour off-color stuff that passed for gasoline, something a bit stronger in color and odor that went for kerosine and all that was left was fuel oil, devoid of tests except that it could be made to burn.

In addition to this equipment and setting, the Independent refiner of the middle west had price troubles, high freight rates and generally had to bid a premium to get any crude oil.

It would not be fair to say that from these tea kettles came the refining industry of the west of today. Rather today's big and efficient refining industry came from the courageous hearts and stalwart souls of those early refiners. Only a handful of those individuals of that period are left and, if I do say so myself, they are not so old either. The industry has just moved fast.

Some people do not like to pause to look back and maybe it is not a good thing to do but one felt that celebrating this 25th birthday made the younger members of the W.P.R.A. a bit more conscious of the size and stability of their business. Giving them a glimpse of these traditions, one felt, rather brought them up with a realization of some of the better things of the past that might well be kept in mind as one looked to the ever growing future.

President Boggs gave the official glimpse to the past and rightly, because his company, name and all, was one of the pioneers. It was rather fitting that A. V. Bourque is secretary, for he dates back to those early days, not as a refiner then but as an oil reporter for Tulsa papers, operating from a desk in the oil crowded lobby of the old Robinson Hotel at Tulsa.

It has been a tremendous 25 years for the middle western oil industry. To the now veteran Western Petroleum Refiners Association goes the credit for creating and maintaining strong and vigorous competition in the oil industry, a competition which has not alone produced a big Independent refining industry there but has brought into existence and nurtured some 5000 Independent oil jobbers today, all up and down the Mississippi and Missouri river valleys, to say nothing, some years back, of being the chief source of gasoline supply for jobbers even on the Atlantic coast.

A good portion of the American public could well have sent its best wishes to the W.P.R.A. birthday party last week.

Blasts Labor Board

One of the worst features of our present labor situation is that the present members of the National Labor Relations Board seem to have considerable bias for labor unions, to say the least. Now comes the Remington Rand Employes in a duly organized association and say that the labor board does not tell the truth. These employes have issued a printed statement of the labor troubles at the company's various plants, which finally eventuated in the labor board, in a 50,000 words "decision," ordering the company to take back 4000 striking employes and damning the company for alleged unfair labor tactics.

As might be expected from any partisan government agency, and so many are partisan, to say the least, the "decision" seems to carry much of what can only be considered down right falsehood, if any credence is going to be given the employes' signed statement.

First, the employes point out that the strike was voted by 3200 employes at a meeting of less than 4000 out of a total of 8050 employed at the plants in this country. The townpeople at the various plants organized in protest at the violence that came with the strike and, like the farmers at Hershey, Pa. later, did a job of policing that permitted most of the workers to return to their jobs. Says the statement of the employes' organization, just issued;

"We want the country to know that Remington Rand and its employes have resisted a systematized campaign of terrorism, assault, arson and dynamiting while standing shoulder to shoulder for the right to work."

The statement says that the old unions in the plants had been losing out and that the union officials were getting desperate for money from dues, and so engineered the recent strike and, it is charged, engineered also the riots to coerce the employes into the union. That of course, unfortunately, is the curse of the labor union movement. Dues must be collected or the officials do not eat.

But the worst feature is the spectacle of a national body such as the National Labor Relations Board issuing the kind of a statement that it did, a statement that a majority of the employes—seemingly—now damn as largely false. What hope can industry have of even common justice at the hands of such political appointees?

Unfortunately, too, many of such types of boards have come in between industry and government, to the detriment of both. The oil industry has had too many sad experiences of its own in the past and, if the Remington Rand case is going to be any indication, the oil industry will probably have some more unfortunate experiences with the present labor board.

If the National Labor Relations Board does treat the oil industry, or any part of it, unfairly and with untruth, we urge those involved, on the part of the oil industry, to let the public have the facts at once. One may not have much luck reforming partisans but one at least has the right of appeal to the court of last resort, the public.

Mid-Continent Skyline

By LAWRENCE E. SMITH, N. P. N. Tulsa News Bureau

TULSA, May 1—Returns are nearly complete on allowable production for May. Oklahoma and Kansas stayed with the Bureau of Mines estimate of demand for crude oil, Texas went far over, as was published last week. Louisiana set a figure 8500 barrels under the Bureau forecast. The New Mexico figure had not been announced as of this writing, but doubtless will continue to exceed the Bureau figure a few thousand barrels.

The states lined up as follows for May:

State	Allowable	Bureau Est. of Demand
Texas	1,411,236*	1,340,800
Oklahoma	622,700	622,700
Louisiana	240,900	249,400
Kansas	187,100	187,100
New Mexico...	106,400†	99,800

*Allowable on May 1, subject to increase as new wells are completed.
†Allowable for last half of April, given for comparison with Bureau forecast.

There wasn't much readjusting done in Oklahoma. The allowable for the Wilcox zone of the Oklahoma City field, by far the largest single source of supply in the state, was left unchanged at 132,000 barrels daily but percentage of allowable was cut from 18 to 14 per cent.

Speculation among engineers is that the present rate of production in this field will not be sustained many weeks. Fluid level, they say, has fallen to but a few hundred feet in these 6,500-foot wells and bottom hole pressures will scarcely average more than 100 pounds. Recent high rate of production has been effected through use of bottom hole pumps but the oil is moving into the hole from the sand at steadily decreasing rate.

The Texas allowable isn't as alarming as it looks on paper, assuming the Bureau estimate to be about right. Texas has much prorated oil but it also has dozens of fields whose allowable is ample to take care of all they can make. Result for many months has been a production two per cent or more under the allowable set by the Railroad Commission.

* * *

Organizer Got His Answer

In the midst of the quite serious labor organizing efforts in the oil country came a chuckle last week when the outcome of one organizing effort in Kansas was reported.

A C.I.O. organizer visited a drilling well and proclaimed the true gospel to the crew. He gave them the familiar arguments as to the beauties of belonging to his union. The crew heard him patiently and disputed no assertion. When he finally ran down one nodded to another and with that signal the visiting evangelist was picked up and heaved into the slush pit which was well filled with very gooey mud. The crew then went back to work with no more display of emotion.

* * *

Notable Birthday is Observed

The vision and industry of two boys who came from Ireland more than a half century ago, looking for greater opportunity than their homeland afforded, is marked today in every principal oil district by stores and warehouses which bear the name Parkersburg Rig & Reel Co.

April was the anniversary month of the company's 40th year and the "Rig & Reel," always a bright and informative company magazine, really outdid itself in observing the occasion.

Two brothers, John and David B. Crawford, chairman of the board and president respectively, engaged in the supply business when the oil industry was young. Some years ago, spending an evening in Charleston, W. Va., this writer had the pleasure of hearing John M. Crawford tell the story which is set forth in the April issue of the magazine. He was the first of a large family to move to the U. S. He arrived in Bradford in 1883, a young lad. He took hold of all the jobs he could find that a boy of his years could handle, attended school and saved his money to pay for bringing Brother David from Ireland. The two then worked and bought a ticket for the next one—if memory is correct it was the late James K., or Jim, as oil men knew him. One by one all the family, including the father—the mother did not live to make the journey—was brought to America.

John tried selling oil field equipment for a time, but he saw a lot of improvements that he could make and he finally obtained financial backing to set up a little shop for the forging of rig irons. David was working for Bovaird & Seyfang, Bradford, and for several years was also a salesman.

"During these years," says the "Rig & Reel," "the two brothers were competitors and occasionally fought 'battles' for the right to serve a customer, with quality and service as their ammunition. And it at least one respect, that of service, David had the edge. He could, because of superior physical strength, shoulder a 300-pound set of jars and carry them to a customer's location when it couldn't be reached with a team. Although he would deny doing so, John couldn't be blamed for listing such extraordinary service under the head of unfair competition."

The association of the two brothers in business began in 1899 and the two have been as one ever since. From their start with ring irons they have anticipated and met the demands of the producing industry for better equipment and the Parkersburg line is an extensive one.

A happy corporate birthday to you, John and David Crawford.

* * *

Here and There

American Liberty Oil Co. (Golding & Murchison) has let contract for pipeline station half way between Conroe and Norsworthy, Houston ship channel, which will increase line throughput about 10,000 barrels daily. The system extends from the East Texas field via Conroe to tanker loading facilities at Houston.

Properties of the Big Indian Syndicates and Big Indian Victory Syndicate, East Texas field, have been sold by district court to the Mar-Tex Oil Co., Fort Worth, for $517,000 cash. These were promotion affairs in the early days of the East Texas field. Free bus transportation and dinners were provided for prospects on Sundays and excursions were run from Dallas. Some of the buyers are faring well, according to the receiver. The holders of Big Indian Syndicates sold one one-thousandths interest per unit for $100 and they will get from $400 to $425 for each unit. After 499 such units had been sold, the promoters sold the other 501 units to the Big Indian Victory Syndicate which put 30,000 of its units on the market at the club rate of three for $100. The receiver thinks the holders of Big Indian Victory units will get back $13 to $15 per unit—less than half what they paid. Properties at time of sale consisted of 50 acres on which were 21 wells. The promoters drilled two wells and then went into receivership. Receivers drilled 19 more wells and salvaged more than is usual under such circumstances, paying off debts and building up a substantial cash account. The late Ted Reese was the first receiver. He was a Dallas attorney. His successor was R. M. Thompson, also of Dallas.

Humble Pipe Line Co. obtained permission from the War Department to tie up traffic on the Houston ship channel for five hours so that it could lay eight lines across the channel to Baytown. Seven of the lines are eight- and ten-inch crude oil lines, the eighth is a three-inch line conduit for telegraph and telephone wires. The company dredged a cut across the floor of the channel, 15 feet deep, 125 feet wide at the top and 25 feet wide at the bottom. Lines were welded and ready to be dragged into position with barges. May 3 was the day for putting them on bottom and the company hoped to give back part of the five hours it was granted.

Pool Opener Delayed

TYLER, Tex., May 1. — Mechanical difficulties were delaying completion at the end of the week of the Seaboard-Tide Water-Humble No. 1-McElreath & Suggett well, near Opelika, Henderson County, about 20 miles southwest of here. It is looked upon as the opener of a new pool.

Small flow of 34.2° A. P. I. gravity oil came through openings in the rotary bit, the oil coming to surface through the drill pipe. Total depth is 7195 feet. Pay is in the Trinity series, far below the Woodbine sand which is the pay horizon in the East Texas field, some 40 miles to the east of the Opelika well.

Finley Resigns

BARTLESVILLE, Okla., May 1.—Because of ill health, James W. Finley, general counsel for the Empire Companies, has resigned, effective June 1 and will move to Denver, it was announced. He has held the position since 1926. He is a former district judge at Chanute, Kans. and served eight years in the Kansas senate.

Calif. Tideland Law Authorizes State Drilling

N. P. N. News Bureau
By JACK WESTSMITH

LOS ANGELES, May 1.—California legislators passed the highly controversial Olson tideland development bill yesterday preparatory to a restful May Day. It now goes to the governor for signature, and with his approval and an urgency clause attached, will immediately become effective. This clause will also prevent referendum action against the bill—a step that has stopped many another measure.

Passage of this proposal, which can put the state in the oil producing business, was the outcome of a number of surprising developments in Sacramento. In what was considered an upset, the Senate refused to pass S. B. 103, which provided for the development of state owned oil lands by means of wells drilled from the adjacent or littoral lands.

The Olson measure, Senate Bill 579, declared that the state oil deposits in the Huntington Beach area were being drained by wells slant drilled into the tidelands from mainland locations.

So many amendments have been tacked on the bill in its shifting back and forth between the two California legislative bodies that it is doubtful the author would readily recognize it.

However, in its essential details the proposition authorizes the state director of finance to acquire by proceedings of eminent domain, easements and rights-of-way desirable for access to state lands. It declares such acquisition a public necessity.

The area fronting Huntington Beach, which has been determined as overlying an extension of the mainland portion of the producing structure, would be divided into 11 parcels of approximately 100 acres each. These would then be offered for lease to the highest qualified bidder, based on a percentage royalty.

In its original form, no two pieces could be leased by the same person and no bid be accepted nor lease granted unless a royalty of more than 30 per cent were offered. Ten-year leases would be granted with a right of renewal as long as oil was produced, not to exceed 25 years. The measure would also require 10 wells to be drilled per parcel.

Amendments changed these specifications somewhat and in its final form provision was made that the minimum royalty of 30 per cent should be established only on wells producing in excess of 200 barrels per day and, if the bidder does not own or control more than 20 per cent interest in a lease on one parcel, he may bid on adjacent parcels.

In spite of refusal of the California electorate to approve initiative measures proposing actual drilling on the state owned tidelands, the Olson bill includes provision for drilling in the submerged lands from islands or piers erected over the tidelands. However, the bill sets forth rules relative to prohibition of pollution.

Debate in the senate on final approval of the measure centered on the provision which might put the state actually in the oil business. The act provides that, if the state fails to receive the minimum bid, it can then proceed to develop the lands on its own behalf. The director of finance would be empowered to purchase all necessary equipment and to carry on all necessary work.

It was brought out in this connection that some of the pieces of land might be considered less desirable than others and that the state might be left with these "lemons" and would be required to develop them.

Already Proven

Sponsors of the measure, however, pointed out that this was a remote possibility because the Huntington Beach tideland pool has already been proven through the directional drilling campaign carried on from upland locations.

In its amended form, the measure requires the lessee to furnish a $100,000 bond to guarantee favorable performance. Failure to supply this bond within 20 days would cause the lessee to forfeit $10,000 deposit made when the bid was filed. For constitutional reasons the act was broadened to be applicable to all state owned lands, but continued to be designed especially for the Huntington Beach area.

Provision was also included in the adopted measure that the first wells drilled should be offsets to those now draining these lands from locations on the uplands. Offsets on all wells drilled in each parcel must have a spacing of 330 feet.

City fathers of Huntington Beach, who have already initiated proceedings to claim these tidelands, will receive a share of the royalty received by the state. In turn, the city will furnish police and fire protection to the area.

While this measure contains the machinery for state drilling of its oil properties, few believe there would be any immediate development in that direction. Independent operators were reported quite willing to bid up for the right to develop those lands.

Bill Ratifies Agreements

During consideration of this proposal in the upper house, the assembly was passing a bill which would ratify agreements between the state department of finance and oil companies having to do with underground trespass of the Huntington Beach tidelands.

This bill was based upon an investigation conducted by a legislative interim committee. As originally drawn this measure requires the names of all persons or companies who, according to records and reports, are taking oil from under the tidelands.

This list would then be compared with another containing the names of companies or individuals with which the state had agreement and the state would then proceed to recover full damages through the courts from those with whom it had no agreement.

It provides for settlement of state claims against six wells draining the tideland pool owned by Standard Oil Co. of California. Standard offered a check in settlement of this claim when surveys showed the wells, which are located on the ocean shore had strayed beyond the mean tide line.

In respect to a similar legislative measure, M. E. Lombardi, director of the California Standard, offered to concede the state easements and rights of way needed for development of the Huntington Beach tideland pool if the agreements between the company and the state director of finance were ratified.

California legislators have set May 14 for adjournment and much midnight oil is expected to be consumed if consideration is given to all unfinished business before the assembly.

It's 'the Bull,' Not 'Old Oil' for Earl

LOS ANGELES, May 3.—Terminating 23 years of activity in the oil industry, Earl L. Miller, executive secretary of the Pacific Coast Regional Code Compliance Committee, governing body under the Federal Trade Commission Code of 1931, resigned to become general manager of the Golden State Co., Ltd., largest dairying concern in California.

Miller expects to find the problems confronting him in his new position not unlike those found in the oil industry, except that he has heard there is more "bull" in the dairying business.

Charles B. Garretson, head of the P.C.R.C.C.C. San Francisco office, became executive secretary on the effective date of the change, May 1.

A.S.T.M. Testing Method Is Basis Of Damage Suit

NEW YORK, May 1.—Contentions of E. W. Saybolt & Co. that a tester is justified in relying upon the express provisions for test as outlined by the American Society for Testing Materials were upheld by a jury in the supreme court, New York county, recently. Trial was before Justice McCook, with Warner-Quinlan Co. as plaintiff and Saybolt company as defendant.

In September, 1934, the Saybolt company was retained to test a cargo of Bunker C fuel oil purchased by Warner-Quinlan Co. from Eastern States Petroleum Co. The contract stated that the oil was to have a cold test of 50 degrees F. maximum at the point of loading and the tester's result was to be "conclusive as between the parties to the contract."

The cargo was refused by Warner-Quinlan when it arrived at New York harbor. It was claimed the oil showed a cold test of 60 degrees F. instead of 45 degrees F. as shown by Saybolt's test. Eastern States sold the oil for about $14,000 less than the contract price, the market having dropped off, and brought suit against Warner-Quinlan for the loss alleged to have been sustained. A summary judgment for the full amount was awarded Eastern States Petroleum Co. and the Warner-Quinlan Co. brought suit against th Saybolt company.

The Saybolt company, the testers, maintained that the regular procedure outlined in paragraph 11 of the A. S. T. M., D. 97-34 was applicable and properly adopted and that the tests showed a cold test of 45 degrees F., which was within the provision of the contract.

Warner-Quinlan contended that the oil should have been tested under the special procedure called for in Sec. 12 of the A. S. T. M., D. 97-34, under the caption "Special Procedure for Black Oils and Cylinder Stocks" and that the failure of Saybolt's testers to so make the tests amounted to negligence.

Expert's testimony varied considerably. It was brought out at the trial, however, that many text writers and standard authorities in the oil industry had never considered Bunker C fuel oil under the classification of a black oil. The jury decided in favor of E. W. Saybolt & Co., after a short deliberation.

Proxies Struggle Involves Management of Tide Water

By LAWRENCE E. SMITH
N. P. N. News Bureau

TULSA, May 3.—On May 13, in Room 211, at 206 North Virginia St., Reno, Nevada, a little group will sit down to count votes represented by a pile of pale blue cards and another pile of white cards.

The blue ones will show the strength in Mission Corp. held by the J. Paul Getty interests. His pre-battle strength is nearly 46 per cent. The white cards will be the proxies for Mission stock which the present management has obtained.

Mission Corp. is the holding company formed several years ago by the Standard Oil Co. of New Jersey, when that company decided to divest itself of the stock in outside companies which it had acquired. Into Mission portfolio went stock of Tide Water Associated Oil Co. and Skelly Oil Co. That was all the properties Mission had. It issued stock based upon the value of the shares in these two companies which it held and the Mission stock was then distributed to stockholders of the Standard of New Jersey.

From the start the Mission was officered and directed by executives of Tide Water. J. Paul Getty is a substantial stockholder in Tide Water, at one time was a director. In 1936 he made a bid for greater voice in Tide Water management and was defeated. Then he turned his attention to Mission, which at this time holds 878,123 shares of Tide Water Associated of the total of 6,288,511½ shares outstanding. That is a little under 14 per cent.

Battle for Control

But Mr. Getty is supposed to own a large amount of the Tide Water stock through his Pacific Western Oil Corp. and individually. If he could take the management of Mission from the Tide Water men who now direct Mission, he could throw the weight of the Mission-owned Tide Water stock in with what he already has, when and if the day comes for resuming battle for control of Tide Water.

However, if the Tide Water shares could be taken out of the Mission portfolio and scattered around, that important block couldn't be voted by Mr. Getty through the Mission, if and when he gets the management of it. Such distribution is precisely what the present Mission directors propose to effect.

That is what the current battle for proxies is all about. It is one of the biggest of struggles for control in the oil industry in recent years.

Both sides to the controversy sent out requests for proxies a short time ago and accompanied their requests with quite a lot of detail as to why each should be given the proxy by the holder of Mission stock. Edward L. Shea, president of the Mission and vice-president of Tide Water Associated, speaking as Mission's president, confined his discussion largely to reasons for the proposed distribution of Tide Water stock to the Mission shareholders. A cash disbursement is also proposed.

Getty Protests

From the Getty camp came a request for proxies, accompanied by a booklet in which vigorous protest was made at the proposal to distribute the Tide Water stock. This was signed by William G. Skelly, who early in March was made president of the Pacific Western company, and by Thomas A. J. Dockweiler, one of the Mission directors and the only one of the eight on the board publicly to register dissent.

The Mission management stated the agenda of the annual meeting at Reno as follows:

"(1) to elect nine directors;

(2) to consider and take action upon a proposal to approve the distribution on June 15, 1937, to stockholders of record of the corporation at the close of business on June 1, 1937, of shares of the common stock of Tide Water Associated Oil Co. held by the corporation at the rate of five-eighths of a share of such common stock for each share of the (Mission) corporation held by such stockholders.

(3) To consider and take action upon a proposal to approve the distribution on June 15, 1937, to stockholders of record of the corporation at the close of business on June 1, 1937, of a dividend in cash of $2.50 per share of stock of the corporation held as of such record date. . . . ."

Mission Stock Ownership

Now, with battle lines thus drawn, how do they stand?

There are two big, definitely classified blocks of Mission stock concerning which there is no doubt. Of these the Getty block is by far the largest. The booklet signed by Messrs. Skelly and Dockweiler asserts that Pacific Western holds 641,408 shares of Mission. Of the total of 1,399,345 Mission shares outstanding, that's nearly 46 per cent.

The Dec. 31, 1936 statement of Tide Water Associated shows that it owns 101,969 shares of Mission—a little more than seven per cent. (Mission owns 14 per cent of Tide Water and Tide Water owns seven per cent of Mission.)

The rest of the Mission stock is out in the public domain. Getty requires about five per cent of it to take charge of Mission and elect his own board and the present Mission board of Tide Water officers needs about 43 per cent of the free and floating stock. There are approximately 49,000 Mission stockholders. But unrevealed are the "hole cards" in the form of Mission stock held individually, either by Getty and his associates or by Tide Water executives.

There is no proposal as to the Skelly stock held by Mission. That block consists of 557,557 shares of the 1,008,548.6 shares outstanding—a little more than 55 per cent.

Started in 1934

All this present inter-corporate entanglement came about through a series of moves which started on Dec. 21, 1934, when the Standard of New Jersey decided to distribute the shares of outside companies which it held to the New Jersey stockholders. The Pacific Western's booklet states this history as follows:

". . . . . On Dec. 21, 1934, Standard Oil Co. (New Jersey), having decided to divest itself of its holdings in Tide Water Associated Oil Co., entered into an agreement with Mr. William F. Humphrey (Note: He is president of Tide Water Associated), as a result of which he organized Mission Corp. on Dec. 31, 1934. As part of this agreement, Standard Oil Co. (New Jersey) agreed to grant Mr. William F. Humphrey's corporate nominee an option for the term of three years on 250,000 shares of Tide Water Associated Oil Co. common stock at a price of $3,575,000. This option was thereupon given to Revada Inc., (a corporation organized and owned by certain Tide Water Associated Oil Co. directors and officials). On March 19, 1937, Revada, Inc., exercised this option, paying to Mission Corp. $3,575,000 and receiving therefor 250,000 shares of Tide Water Associated Oil Co. common stock; thus reducing Mission's original holdings in Tide Water Associated Oil Co. from its former holdings of 1,128,123 shares to its present holdings of 878,123 shares."

It was on Jan. 23, 1935, that the Skelly stock held by Standard was put into the Mission.

Mission President Shea set forth the reasons for giving five-eighths of a share of the Tide Water Associated stock now held by Mission to each share of Mission stock. He said:

"1. When Mission Corp. was organized there was no inter-corporate dividend tax. Today there is such a tax under federal law, equivalent to approximately 2¼ per cent of all dividends received by the corporation.

"2. In view of the trend of legislation unfavorable to holding companies, there is no assurance that the inter-corporate dividend tax will not be increased from time to time, and other legislation enacted prejudicial to holding companies, with the result that holding company operations will be made less profitable.

"3. Mission Corp. stock has been selling for a considerable period of time below its net asset value based upon the market prices of Tide Water Associated and Skelly shares. In other words, there is an advantage on the basis of recent market prices in the stockholders owning and having the right of disposal of Tide Water Associated common stock directly.

Reasons for Distribution

"4. In view of the exercise of the above-mentioned option, leaving 878,123 Tide Water Associated shares held by the corporation, and in view of the fact that these shares represent only approximately 13 per cent of the total voting power of Tide Water Associated, such shares do not have, in the judgment of the board of directors, such a special value as a block as to make it advantageous to hold them when compared with the advantages to the stockholders of having the right of direct ownership or disposal of such shares.

"Indeed, the advantages of direct ownership and control of the remaining Tide Water Associated shares by the stockholders themselves clearly outweigh the speculative and highly uncertain advantage of holding the shares together in a block.

"5. The distribution of such shares and cash may be accomplished without undue taxes being immediately payable."

In view of the tax situation and the "indicated prevailing policy" of Congress on holding companies, President Shea said there were three alternatives. One was to liquidate Mission Corp. completely, distributing the Skelly stock as well as the Tide Water Associated stock and the cash in the Mission treasury. Another would be to sell the Tide Water stock and distribute the money. The third

is the method proposed, distribution of the Tide Water stock pro rata to Mission stockholders.

Why Not Skelly Also?

As if anticipating the question, why, if distribution of Tide Water stock pro rata is desirable, why not Skelly stock also? Mr. Shea gave his answer.

"The first alternative, complete liquidation of Mission Corp. involves two points," he said. "First, holdings in Skelly, representing more than a majority of the outstanding common stock of Skelly, may have a value as a block in excess of the value indicated by the market price per share. (This is not certain, of course, and it might well in the end be more advantageous to the stockholders of Mission Corp. to have direct ownership of the Skelly stock.) Second, complete liquidation would require the affirmative vote of the holders of at least two-thirds of the Mission Corp. stock, which I do not believe could be obtained at the present time."

From the Pacific Western camp came strong denial that any good would come of the proposed distribution of Tide Water stock. The proxy committee of the opposition consists of William G. Skelly, Thomas A. J. Dockweiler, Harold L. Rowland, vice-president of Pacific Western and H. Lee Mason, Jr., who is described as "representing a substantial group of independent stockholders." Their program for the Reno meeting is expressed as follows:

Getty's Program

"(1) for the election of a board of directors, (2) to vote against and disapprove a proposal or resolution to distribute to Mission Corp. stockholders shares of stock of Tide Water Associated Oil Co., (3) to vote against and disapprove a resolution to distribute to Mission Corp. stockholders cash in the amount of $2.50 per share, (4) in the transaction of such other business as may properly come before the meeting."

Getty interests do not object to payment of a cash dividend but the $2.50 rate, they say, is excessive and would leave Mission Corp. with little money. They think $1 would be proper.

As to election of new directors, this group said: "It is proposed by the proxy committee to vote for a board of directors that will include experienced oil men, comprising members of the management of Skelly Oil Co., Pacific Western Oil Corp. and one representative of Tide Water Associated."

The argument advanced by Mr. Shea concerning the effect of taxes on the distribution was answered by Messrs. Skelly and Dockweiler, as follows:

"Under the present law, if the Tide Water Associated block is thus distributed, a capital gain will be realized by nearly all Mission Corp. stockholders—a capital gain subject to a federal and probable state income tax.

Tax on Stockholders

"This tax, for most stockholders, will be based upon the difference between the value of Mission stock when it came into their possession and the market value of Tide Water Associated stock distributed to them. Although a substantial tax is thus payable, you will receive nothing of value in return for such tax, since your interest in Tide Water Associated stock now held by Mission Corp. will be no greater when distributed to you that it would be if continued to be held by the corporation which you now own. Naturally, the value of Mission stock will depreciate to the extent of the value of the Tide Water Associated stock distributed, plus the substantial cost of distribution.

"In 1935 a federal tax on inter-corporate dividends was enacted. At the present time this tax amounts to 2¼ per cent of the dividend received. Applied to the Tide Water Associated block belonging to your corporation, this tax amounts to less than one cent per Mission Corp. share per year. This small tax is not a valid reason for destroying the value of the Tide Water Associated block held by your corporation."

Mission Corp. was described as a fifty-million-dollar company. The balance sheet of Dec. 31, 1936, lists total assets of $14,031,597.57. But the 1,128,123 shares of Tide Water stock then held were given the value of $9.40 per share, whereas the market on April 30—last Friday—was 18. The Skelly stock in the Dec. 31 statement was valued at $6.27 per share and the April 30 market was $59.875.

Since that statement, 250,000 shares of Tide Water have gone out of the Mission portfolio but in return therefor $3,575,000 have come into the treasury. Cash in the form of a dividend on Tide Water stock has also come into the Mission treasury since the annual statement was made. This amounted to $169,218.45.

Mission Corp. stock on April 30 was selling at $28.50 per share, placing total market value of $39,881,332.50 on the 1,399,345 shares outstanding. The Getty stake in this is approximately $18,000,000.

'Limit Stations,' Is Cry of Dealers Fearing Price War

By JOHN W. THOMPSON

TORONTO, May 3. — As a result of the concern of Toronto dealers over the influx of applications for permits for station buildings, the Toronto city government is now wrestling with a proposed by-law to its local ordinances, which would limit the number of service stations to be operated in the city.

With approximately 150 automobiles per gasoline outlet in this Canadian city, the local Independent Gasoline Retailers Association and the Independent Garage Association set out late last fall to find means of checking station construction.

Appeal for Authority

An appeal was made by the dealers to the Toronto City Council on the grounds that the addition of more outlets would only serve to disrupt the market and drive some of the older dealers out of business.

The city council appealed to the Ontario provincial government for power to enact such legislation limiting the number of gasoline outlets. In granting this power to the Toronto government, the Ontario legislature automatically gave the same power to any municipality in Ontario. A by-law was then submitted, limiting the number of gasoline outlets to those which were then operating, plus the number of building permits for gasoline outlets issued or applied for prior to April 1, 1937.

Would Block Price Cutter

Late in March a new cut-price problem arose which spurred the Toronto dealers into renewed action. Applications for station licenses were made by the Joy Oil Co., who are reported to be planning to operate 25 stations in Toronto.

The Joy Oil Co., already building three stations in Toronto, is, for all official purposes, being directed by Mrs. Charles E. Austin. Her husband, whose Sunny Service Oil Co. in Detroit first broke that market in 1931 with Roumanian gasoline, has signed no documents in Canada, according to an authoritative source. Austin's interest in the Sunny Service company was sold eventually to three major companies for $1,400,000.

According to Toronto dealers, Austin's hand is again being shown in a similar setting in Montreal, where the St. Lawrence Service Stations, Ltd., operates 11 cut price stations.

Now, with Austin's Joy Oil Co. pointing its finger at Toronto, dealers in this city are demanding that the city council take some immediate action to keep that company from adding any more stations here.

Joy Co. Rebuttal

Joy representatives have presented arguments against limitation. Some of these found support in the council, with the result that on April 26, at the last council meeting, it was decided to return the proposed by-law to the Board of Control for further study.

According to C. D. Joyce, president of the Toronto gasoline dealers association, the Joy interests are making an effort to postpone the enactment of the proposed legislation until permits can be approved for the desired number of Joy stations in Toronto. Joy now has a total of 11 permits approved by the city.

At the council meeting April 26, one councilman stated that the local government had no right to limit the number of stations, or to interfere with the sale of gasoline and oil, especially after permits for stations had been granted.

Another council member remarked that "when it looks as though the major oil companies will at last receive a little real competition from the Joy Oil Co., members of the council are allowing themselves to be used as a lever to try to curb and keep down honest competition in the gasoline business."

John Noble, secretary of the Toronto Building Trades Council, wrote to the Board of Control withdrawing support of the Joy Oil Co.'s application for stations, stating that the company had not fulfilled promises regarding employment of union labor.

In the meantime, Toronto dealers are stymied in their efforts to keep the Joy stations out of the city. Already three Joy stations are under construction, and permits have been issued for eight more.

Joy representatives are reported continuing their search for station locations, and obtaining permits as quickly as possible, believing they will be able by legal means to keep permits already granted, regardless of the outcome of the proposed regulation.

The next meeting of the city council is May 10.

Major oil companies are taking no active part in the issues, it was stated.

The Midwest Marketer

By E. L. BARRINGER, N. P. N. Chicago News Bureau

CHICAGO, May 3

Labor looms as one of the outstanding marketing problems of the year.

Newspaper headlines have carried the story about labor situations in other fields, notably automobiles and steel, and there is considerable talk about organizing petroleum, yet the labor problem is broader than union activities.

Labor situations also are not confined to major oil companies, to worry over as to outside organizing, the status of company representation plans and the Wagner act. Small marketing companies are being pinched as well.

Social unrest of the times is making inroads on small company employes, right up to the people that sit outside the boss' front office. The effects are felt in larger personnel, leading also to higher operating costs, and the decreased efficiency of the men. In several cases the result has been the management calling for a show-down and severing relations of long standing.

The idea is gaining a strong foothold that working only a few hours a week should produce a reasonable income, and that somewhere there is a benevolent somebody that will provide in old age.

As for the younger generation, well, a job with a title, good salary and prerequisites might be attractive, but as for starting at the bottom and working up, that's out. It is hard to sell the idea of working in a station, driving a truck, or working in the bulk plant six days a week when other forms of so-called labor offer enough to meet current expenses working only a few days a week.

The labor situation has forced one small marketing company into adding several station supervisors to the payroll. Obviously a supervisor must do a job through increased sales to be worth more to the company than the expenditure for the supervisor's salary and traveling expenses.

This marketer found that his supervisors were having greater difficulty keeping up sales in stations and in obtaining outside sales. So the marketer cut down the size of a supervisor's territory, added several more to the payroll, and the supervisors are become less supervisors and more salesmen to do selling work that formerly was performed by retail salesmen.

But labor situations are not confined to the rank and file of the workers. It comes right into the ranks of salaried executives, who have been through the mill and worked themselves into responsible jobs.

One marketer commenting on this phase of the general labor situation referred to one of his higher executives. The man doesn't know it, but the boss considers his productivity down some 30 per cent because of the general social unrest.

What to do about it is a perplexing problem. But marketers, large and small, have the idea that labor costs are rising, and it seems evident that management, whether it be the officers of a corporation or the individual operating a jobbing or retail oil business, is in for more hard work in doing a better job of management.

* * *

Standard of Indiana's Report

Standard Oil Co. of Indiana laid bare its corporate structure last week with issuance of the annual report to stockholders and the annual press conference.

Some 30 news men, representing all the trade publications with offices in Chicago, daily newspapers and wire association financial men, filed into President Seubert's office several hours before the annual meeting was held in Whiting, Ind.

Conger Reynolds, public relations director, introduced the men to Mr. Seubert and to Charles J. Barkdull, executive vice-president and treasurer, and the reporters settled back in the semi-circle of chairs.

After a few words of introduction from Mr. Seubert the news men resumed scanning of the annual statement and began asking questions. As is customary, questions concerned the company's opinion of the future, about plant improvements, and points of general interest to the public.

While the statement to stockholders gives a brief review of the year, in addition to the usual financial statements, there was one item that will be of much interest to jobbers — that of sales of tires, batteries and automobile essentials in 1936 amounted to $8,747,235.22.

Total sales of the company last year, including crude oil and finished products, amounted to $328,604,094, so the accessory end of the business produced more than 2½ per cent of total sales.

Stanolind Will Spend 49 Millions in '37

STANOLIND—No. 7

CHICAGO, May 3.—A second executive who spends only part of his time with the company was added to Standard Oil Co. of Indiana's board with election of Judson F. Stone at the annual stockholder's meeting April 29 in Whiting, Ind. He replaces the late Melvin Traylor, Chicago banker.

Standard Oil of Indiana will spend some $49,000,000 about the same as in 1936, for plant improvements during the year, Edward G. Seubert, president, announced at a press conference here April 29 prior to the stockholder's meeting.

Sixth Directorship

Stone is a director of International Harvester Co., Poor & Co., Chicago Title & Trust Co., and Continental Illinois National Bank & Trust Co. He is a chairman of the board of the Wilmette, Ill., State Bank, and the Belle City Malleable Iron Co., Racine, Wis.

The other non company executive on Standard's board of 12 is Bruce Johnstone, Chicago attorney.

Valvoline Offers Plants

CHICAGO, May 3. — Bulk plants and service stations of the Valvoline Oil Co. in the middle west are being offered for sale.

Properties consist of 19 bulk plants in Wisconsin, three in northern Illinois, and about 17 service stations. Entire properties at given points are being offered, including the bulk plant, stations, trucks and equipment.

Colorado Outlaws Sales At Below Cost

DENVER, May 3.—Governor Teller Ammons has signed H. B. 642, the Fair Trades and Practices Act, which prevents selling below cost and is a companion bill to the fair trade act signed by the governor several weeks ago. Both measures were supported by Representative A. Dean Coleman, operator of a gas and oil wholesale company at Boulder.

Under the law, no article may be retailed for less than its cost to the retailer, and cost is so defined as to include the price actually paid for the article or commodity, or replacement cost, whichever is lower, plus a mark-up to cover overhead expenses. It is specifically provided that the mark-up must be equal to the overhead of the most efficient retailer.

Under the act, each line of trade has the privilege of establishing the overhead for its particular group, by a method of three variations:

Determining Cost

1. An arbitrary figure, based on surveys which have been made in the past, may be taken.
2. If such arbitrary figure is protested by any individual retailer as being too high—that is higher than is justified by his own experience—he will have the privilege of presenting evidence in support of his claim, and if it be substantiated, the mark-up will be correspondingly reduced.
3. In the event of such a protest by a retailer who does not care to produce evidence based on his own experience, a new survey may be made.

Penn Service Oil Co. Fetes 500 Dealers

READING, Pa., April 30.—The Reading Country Club was the scene of the annual meeting of dealers and employes of the Penn Service Oil Co. here, held recently. The company is distributor of Tydol gasolines and Veedol motor oils, products of the Tide Water Associated Oil Co., New York. It also distributes tires, batteries, Car Skin, Pyro and Super Pyro.

Over 500 dealers and employes attended the meeting, according to N. E. Rhoads, credit manager.

Presiding at the meeting was J. Stratmeyer, an official of the Penn Service company. Company speakers were I. L. Gromis, general manager, and R. R. Rhymer, field manager.

24 Oil Tankers Under Contract, Bureau Reports

N. P. N. News Bureau

WASHINGTON, May 3. — Award of a contract last week for construction of another all-welded 18,500 ton tanker to Sun Shipbuilding and Dry Dock Co., Chester, Pa., by Atlantic Refining Co., brings to at least 24 the number of oil-tankers now under construction or contract by American shipyards.

Reports from all shipyards for the month of April have not yet been received by the Commerce Department's Bureau of Marine Inspection and Navigation, and they are expected to report several other oil-carrying vessels on which construction was begun in April, or is to begin soon.

The new Atlantic vessel is to be completed in September next year, and the all-welded tanker of the same tonnage now being built for Atlantic at the same shipyards is scheduled for delivery before the end of this year. They are the two largest all-welded ships now under contract.

Others Under Construction

Atlantic's first ship is one of 23 reported under construction as of April 1 by the Marine Inspection Bureau. Four of the others are being built by Bethlehem Shipbuilding Corp., two for Standard Oil Co. of New Jersey and two for Gulf Oil Corp.

Bethlehem Steel Co. also is building two for Standard of Jersey, and Federal Shipbuilding and Drydock Co., Kearny, N. J., is constructing four tankers for the same company. Federal also has one tanker under construction for Pan-American Petroleum & Transport Co. American Tankers Corp. has one vessel under construction at Ingalls Iron works, Birmingham, Ala.

Besides Atlantic's two large all-welded vessels, Sun Shipbuilding has under contract nine other tankers; two for Standard of Jersey, three for the Texas Co., two for Standard of California, one for Sun Oil Co., and another tanker for Atlantic of 11,000 gross tons.

Tonnage Near 200,000

Gross tonnage of the 24 reported tankers is 195,832.

In addition to the tankers, contracts for at least five tank barges were entered into during March, with the April report expected to reveal as many more. Standard of Jersey contracted with American Bridge Co., Pittsburgh, for two barges of 262 tons each for river service; Gulf Oil Corp. contracted for two 250-ton barges with the Nashville Bridge Co., and B. L. Barker has arranged with the same company for construction of a 610 ton barge.

One new tanker was launched in March, according to the report—the Texas Sun, built for Sun Oil Co. by. Sun Shipbuildig and Dry Dock Co., with a gross tonnage of 9,902 tons.

* * *

Tanker Construction

NEW YORK, May 3. — Oil tankers under construction throughout the world on March 31, 1937, grossed 689,838 tons compared to 652,202 tons at end of 1936, according to Lloyds Register of Shipping. The total includes steamers and motorships of 1000 tons and over.

Tanker construction in United States and Holland showed a substantial increase during the 1937 quarter, while Germany and Great Britain dropped considerably.

At end of March, 1937, United States had 10 steam and 4 motorships under construction, totaling 112,600 gross tons. Similar construction on December 31, 1936 consisted of 7 steam and 3 motorships totaling 79,840 gross tons, according to Lloyds Register.

Hearing Set On First Pipeline Valuation Case

N. P. N. News Bureau

WASHINGTON, May 3. — Interstate Commerce Commission's first tentative pipeline valuation case will move a step nearer completion June 25, when Atlantic Pipe Line Co. will offer oral arguments before Division I of ICC in support of its protests against the valuation placed on its properties.

At the same time, the ICC has set June 1 as the date when hearings will open before Chief Valuation Examiner M. A. Pattisen on the protest of Gulf Refining Co., successor to Gulf Pipeline Co., on the tentative valuation of its properties.

Only one other tentative valuation report has been issued by the Commission under the pipeline orders—that of Sinclair Prairie Pipe Line Co., of Texas. A protest against this report has been filed by Sinclair Refining Co., as successor to the pipeline company, but ICC has not yet fixed a hearing date.

A hearing on Atlantic's protest, in which it was claimed the ICC valuation bureau erroneously excluded from the carrier-owned-and-used classification ($14,250,000) certain storage facilities, lands, pumping stations and other property, was held before an examiner here in March. At that time the privilege of oral argument before the commission was requested.

Orders of Division I of the commission, before which Atlantic's arguments will be presented, are of equal weight with orders of the entire commission. Should there be an appeal from the Division I ruling, however, the case may be brought before the entire membership of the ICC.

Gulf Protests Similar

Gulf's protests against the carrier-owned-and-used valuation placed on its properties ($33,750,000) are similar to those of Atlantic.

First orders directing that tentative valuations of pipeline companies' properties be made by ICC's valuation bureau were issued late in 1934. Besides the three tentative valuation reports already issued, the bureau is working on more than 50 others, all of which it is hoped will be issued by this fall, and which may be used by ICC in connection with further hearings on the pipeline rate reduction case, Docket 26570, now pending before ICC.

New Jersey Diverts 8 Millions Despite $1,132,000 Penalty

N. P. N. News Bureau

WASHINGTON, May 3. — Overriding of Governor Harold G. Hoffman's veto of a bill to divert $7,917,000 from New Jersey motorists' tax revenue to relief financing will cost the state $1,132,000 each year for two years—1938 and 1939—in federal-aid highway money, according to the Bureau of Public Roads.

This is in addition to a similar sum which the bureau has warned Jersey officials it will withhold from it in 1937 because of previous diversions unless they are restored to the highway fund. As yet the bureau has had no reply to this letter.

The penalties represent one-third of federal-aid moneys apportioned to the state each year under the Hayden-Cartwright act, which provides that any additional diversions not in effect when it was passed (June 18, 1934) shall be penalized by such a cut in the offending state's allocation.

Before passing the bill providing for the present diversion of almost $8,000,000 the state was warned in a telegram from Thomas H. McDonald, chief of the BPR, to Governor Hoffman.

The bureau has been advised that passage of the new diversion bill, despite the warning, brings New Jersey's total diversion of motorists' revenues to other than highway maintenance and construction uses to $80,000,000 since the highway fund was set up.

Meanwhile, bureau officials have been advised of the intention on the part of Maryland, first state to feel the teeth of the Hayden-Cartwright penalty provisions, to make restoration of the diversion for which the bureau threatened to penalize the state in a letter of several weeks ago.

"When this money has actually been restored," they said, "the remainder of Maryland's apportionment will be restored to the fund set aside for her federal-aid."

Georgia highway officials also have been warned that they will lose one-third of their 1937 apportionment—a loss of $1,053,333—unless they restore certain diversions.

Cunard Finds Oil-Coal Fuel Cheaper

N. P. N. News Bureau

NEW YORK, May 3.—Use of so-called "colloidal" fuel—a blend of finely pulverized coal and bunker oil—in Cunard Line ships has aroused interest in the possibilities of such a combination for firing marine boilers generally, according to reports reaching here from London.

First tried aboard the Cunard Liner "Scythia" in 1932, the colloidal fuel experiments have continued, and, according to the line's 1936 report, definite progress has been made.

6-4 Ratio

The blend used is approximately a 6-to-4 ratio—that is, 60 tons of fuel oil blended with 40 tons of pulverized coal, and it is understood its use has spread to several of the vessels controlled by Cunard, sometimes in an auxiliary capacity only, however.

According to reports it is appreciably cheaper than oil only. Cunarders consume well over 1,000,000 tons of oil annually.

Standard Employees

(*Continued from page* 9)

refineries, 13 sales divisions and four office forces. About 4000 employes are affected.

A proposed amendment to change the name to the Association of Petroleum Workers of Standard Oil Co. of Ohio will be submitted to the membership it was learned.

Maxwell, in his letter to McCowen, advised the council that meetings of the unit councils and central council and any other activities of the organization will have to be conducted on the employes' own time and not on the company's time, except that meetings of representatives with the management may continue to be conducted upon the company's time.

"We enjoy certain privileges under the Wagner Act which were not heretofore clear," McCowen said. "A union that has the majority has the right to bargain for all employes. Therefore, I sent a reply to Mr. Maxwell asking that we be recognized as the bargaining agent."

Maxwell was asked if the company would interpret "majority of employes" on a company-wide or plant-wide basis. He replied the latter.

* * *

CHICAGO, May 3.—Standard Oil Co. of Indiana has discontinued its employe industrial relations plans and employes are reported to be forming their own organization for collective bargaining with the management.

At the press conference April 29 prior to the annual stockholders meeting President Edward G. Seubert informed news men he understood employes were forming their own organization and that he had conferred with one group upon invitation of the group.

While the company's industrial relations plan has been discontinued a canvass of the situation in the East Chicago refining district, where Standard has its Whiting plant, indicates Standard's employes look with much favor on an organization of their own, and that outside organization has and is likely to make but little progress.

Other Plants

At other plants in the East Chicago district organization by C. I. O. is reported to have been successful. One plant is reported to have experienced a "slow-up" strike, with numerous minor incidents resulting in production dropping some 50 per cent. Several high company officials are reported to have come out to the plant and a wage increase followed. Then the minor incidents vanished, production returned to normal. The plant is reported to be 87 per cent organized by C. I. O.

The annual stockholders' report mentioned the social security plans of the company since 1903, and that on Dec. 31, 1936, some 687 employes were enjoy-

Labor Policy of Standard Oil Co. of New Jersey

NEW YORK, May 4.—Because of many requests for information as to its labor policy since the Wagner Act decision, the Standard Oil Company (N. J.) directors today released in advance of publication that portion of the annual report dealing with the company's industrial relations. This section follows in full:

There are two divergent theories of the relationship between employer and employes. One is that the real objectives of the two groups are identical. If so, it follows that neither can profit at the expense of the other. This is the theory of cooperation. The other, and currently more popular belief, is that in its very essence the capital-labor status is one of conflict.

Abundant experience has demonstrated that harmonious, mutually satisfactory relations between employer and employes are not static; that they cannot be made rigid nor enforced by law. On the other hand, the record shows that a continuously good working understanding can be assured if it rests on fairness, two-way confidence and willingness to make the adjustments necessary to meet ever changing conditions.

The present widespread public interest in the subject makes it timely to set forth here the relationship which has existed between the subsidiaries and their employes, salaried workers as well as wage earners. Our approach to the problem has been through th means of uninterrupted production obtained with the help of well paid, efficient and loyal workers. We have dealt with employes as individual personalities, as opposed to the antiquated view that labor is a commodity. Employes have the same stake in the success of an enterprise as the owners, and our attitude has been that Standard Oil Company (N. J.) men are workers *with* the company rather than *for* it.

An efficient and satisfied personnel is as essential as wells, refineries or tank wagons. A cardinal principle of our policy has been to endeavor to determine through conference with the employes what is right and fair, and then to act on the facts. Where such a policy is followed, the use of undercover agents or labor spies has no place.

Employes have dealt with the management through the representation plan for nearly twenty years. They have annually elected their representatives through secret ballots. They have carried on collective bargaining, not only on rare occasions to meet a serious issue, but continuously in connection with all domestic operations.

This provided a co-operative approach which left management and employes free to attend to the job in hand, without interruption of operations. It brought about a steady improvement in the employes standard of living. It required more consideration by both sides of responsibilities as against selfish rights. The employes have negotiated the settlement of all matters concerning wages, hours and working conditions. They have adjusted grievances and made valuable contributions in the interests of efficiency, economy and safety. Jobs have not been contingent upon membership or non-membership in any union or other organization, and there has been no case brought to the management's attention of discrimination between union and non-union workers.

The concern felt by a worker in the security of his job has been met by steady employment, co-operative creation of reserves for sickness, old age and death, and the engagement of new employes in the lower wage classifications, thus assuring promotion based on ability. The labor turnover of regular employes (over a year of service) has averaged less than 11% over the last five years. This is remarkably small, particularly as it covers the rise from the low point of the depression to maximum operations. Of the 49,424 domestic employes on the payroll at the end of the year, 22,053 have been in the company's service more than ten years and 4909 of these for more than twenty years. There are 40,456 or 93% of eligible employes participating in group insurance totalling $110,893,333 and 40,314 or 92% in the thrift and annuity plan. At the end of its first year, the total amount standing in these funds was $15,000,000. At home and abroad there were 129,353 persons employed by the subsidiary and affiliated companies at the end of the year.

The Company has never interfered with the free choice of its workers as to who should represent them. Not all employes have dealt with the management through the industrial representation plan. For instance, in the marine department the frequent transfers of seagoing personnel and irregular movement of tankers led to negotiations with marine employes under a union contract. Out of this grew the only labor trouble experienced in any of the domestic operations last year. Our ships, together with other American lines, suffered from a jurisdictional dispute between two factions in the unions.

In looking back over the experience of two decades in negotiating with employes through their own elected representatives, it is clear that the greatest values have come out of the mutual confidence and respect which have grown up between employes and management, developed through frank and open discussion governed by a spirit of fairness on both sides. Also, there is apparent a steady growth in recognition of the fact that shareholders, management and employes have definite common interests in the welfare of the company and benefit alike from regularity of production and continuity of employment. It is the earnest hope of the company that the friendly relations which have so long existed may continue regardless of what plan of collective bargaining the employes may now decide to adopt.

ing an annuity. The report also lists the following service record of the parent company:

Years of service	Number
Less than 5	5576
5 to 10	3600
10 to 20	7190
20 to 30	1895
30 to 40	330
Over 40	68

* * *

N. P. N. News Bureau

TULSA, May 1.—Employes of Standard Oil Co. of Indiana subsidiaries have received notice that the employe representation plan in use for many years has been discontinued. The reason is the same as that given by Humble Oil & Refining Co. earlier, namely, possible conflict with the terms of the Wagner Labor Act.

Like announcement was made by the Pan-American subsidiaries of the Standard of Indiana.

At the Baytown, Tex. refinery of Humble Oil & Refining Co. employes formed a federation soon after the company announced the termination of the employe - management joint council plan of industrial relations and proceeded at once to ascertain by ballot the wishes of Baytown employes as to collective bargaining agency. The two principal choices offered were the new federation and the C. I. O. local which claimed a membership of about 700.

Results of the vote at the Baytown plant of the Humble will not be known for a few days, said W. A. Thomas, a leader in the fight to keep CIO unionism out of the plant. Thomas organized the Humble Employes' Security League several weeks ago, and, when the company announced the termination of the present employes' representation plan, he was one of the leaders in the formation of the federation.

* * *

N. P. N. News Bureau

LOS ANGELES, May 3.—A. L. Weil, president of the General Petroleum Corp., Socony-Vacuum subsidiary, has sent a letter to all employes outlining main points of the Wagner Act and stressing the fact that the act does not compel a worker to join any union, but that he was free to join any organization he chose.

In the next issue of the corporation's house organ, it was announced, there will appear a form letter written by the C. I. O. local headquarters to all Pacific Coast oil companies together with an answer by the General Petroleum management and a return statement by the C. I. O.

About 10 employe groups, loosely affiliated, are associated with Standard Oil Co. of California. No definite developments were reported this week.

Witnesses State

(*Continued from page* 9)

sylvania, that fuel oil, manufactured as a part of regular refining operations, he said would have to find a market somewhere else. Logically, he said, a great deal of it would go into Pennsylvania's neighboring industrial states, there to glut the market and force the price downward. This would have a deleterious effect on the anthracite market in these nearby states, where much of Pennsylvania's anthracite is sold, he said.

Taking Wrong Tack

Dow said he did not blame the coal men for fighting for their industry, but believed that they were taking the wrong tack in taxing fuel oil, which is responsible for only a small part in the decline.

Again assuming that increased use of fuel oil is to blame for declining coal tonnage, Dow suggested this dilemma—either the proposed tax would cut down the use of fuel oil, thus dragging tax revenues below the expected $5,000,000, or else it would succeed as a revenue-raiser, in which case the protesting coal miners' position would not be helped.

Dow also drew an analogy between the present situation and that of some 30 or 40 years ago, when the oil industry's chief market was that of kerosine for lamps and electric lights began displacing kerosine lamps, and declared that taxing one industry to protect another was a "questionable use of taxing power". No tax was placed on electric lights, and "you'd laugh at such a suggestion today", he told the committee members.

The fuel oil tax measure, sponsored by legislators from the coal regions, was characterized as "an attempt to perform an economic abortion" by Robert W. Wolcott, president of Lukens Steel Co., Coatesville, Pa., one of the numerous industrial users of fuel oil who opposed the bill. Wolcott said he not only represented the industrial users, but the labor they employ; for this labor, he said, would suffer along with the management if the price of fuel oil were arbitrarily raised 30 to 60 per cent.

Steel Maker Protests

Wolcott said that, even if they were forced to go back to coal, steel plants would not be able to use Pennsylvania coal on an economical basis, since it is not sufficiently high in volatility ratio nor low enough in sulfur content to make gas for an open hearth furnace.

It was his contention that a great many more unemployed would be created by passage of the bill than would find work because of its provisions, through the moving of plants from Pennsylvania, curtailment of operations, and the actual closing down of some plants which the tax would cause.

Irvin E. Walton, another industrial consumer, said that, if the fuel oil tax bill were to become law, many of the companies in the Pittsburgh district would go to gas, not coal.

Proponents of the law, besides dwelling on the number of employed miners, set up a great cry for "conservation". They pointed with alarm to "petroleum resources", and said such a tax would not penalize Pennsylvania oil producers, since very little of their oil went for fuel anyway.

Would Make Redress

Proponents said the tax is "punitive" only insofar as it 'tries to make redress to another industry". They pointed out the large amount of the coal dollar which goes to labor, and characterized the petroleum industry as a "laborless industry", which fact should be set off by an "equalizing tax".

Comedy relief at the hearing, attended by more than 300 oil and coal men who jammed the House Caucus room at the State Capitol here, was supplied by Patrick T. Fagin, a United Mine Workers' representative.

Fagin recited at some length the number of people he represented, and broadly hinted at the number of votes they represented. Then he flatly declared he was interested in the bill because he wants to conserve "our great natural resource of oil." This was greeted by a roar of laughter from coal men and legislators, as well as the opponents of the bill. J. Noble Hirsch, Tamaqua representative, one of the bill's chief supporters, said after today's hearing that he would press for action in committee later this week, if possible.

Ky. Fall Meeting

LOUISVILLE, May 3. — The annual fall conference and seventh annual golf tournament of the Kentucky Petroleum Marketers Assn. will be held at Louisville, Sept. 7 and 8, with the business sessions on the 7th and the golf tournament on the 8th, according to The Kentucky Petroleum Marketer, official bulletin of the association.

This meeting has been set in the week prior to the Kentucky State Fair, which starts Sept. 13. Middleton DeCamp heads the golf committee as chairman with C. W. Healy as vice-chairman. Other committee members are M. A. Bauer, L. M. Slack and Ben Offutt.

3 for Oil Board Named by Earle

HARRISBURG, Pa., May 3.—Selection of a five-man commission to "make a thorough investigation into the oil industry" in Pennsylvania is expected to be completed this week.

Three members already have been appointed by Gov. George H. Earle, and two others are to be named by the president pro tem of the senate and the speaker of the house. Governor Earle signed the resolution setting up the commission last week.

Judge Ralph H. Smith of Pittsburgh, is chairman of the commission. William H. Godfrey, Germantown independent retailer, will represent distributors on the board, and John E. McComb of Rouseville, a producer, will represent his division of the industry.

Earle's Statement

In naming the three gubernatorial appointees, the governor, who recommended the investigation some months ago, declared:

"The chaotic condition of the oil industry in our state makes an investigation highly desirable. Monopolistic practices, price wars and similar cut-throat activities have seriously interfered with the normal operations of this industry. This in turn has a direct effect upon the price and consumption of gasoline, and consequently upon the motorists of Pennsylvania and upon the state government. I am convinced that this commission, through its investigation, can do much to restore stability to this demoralized industry."

The commission is directed by the resolution creating it to report to the governor "its findings as to whether or not the oil industry is so affected with the public interest as to require statutory regulation; and its recommendations, if any, as to legislation needful to correct any abuses and evils connected with the whole operation of the oil industry in this Commonwealth, which are prejudicial to the interests of its citizens."

Pure Adds To Counsel

CHICAGO, May 3. — General counsel for The Pure Oil Co., beginning May 1, is the firm of Vinson, Elkins, Weems & Francis, of Chicago, according to Henry M. Dawes, president of the Pure.

A. C. Harvey, who has previously acted in an individual capacity as general counsel, will continue as advisory counsel. Other members of the present legal force in the Chicago headquarters will continue as formerly, Mr. Dawes says.

World Petroleum Congress Announce Topics for Five Sections

PARIS, April 26. — General subjects for discussion at the Second World Petroleum Congress at Paris June 14-19 have been announced for each of the five sections into which the congress has been divided. More than 300 persons have offered contributions to the programs of the five sections.

In the Physics, Chemistry and Refining sections subjects include gases and their utilization, paraffin and dewaxing, refining with solvents, preparation of asphalts and bitumens, and synthetic products. Dr. Egloff, director of research of Universal Oil Products, heads the committee which is arranging the refining program.

Under the head of Geology and Drilling will be special studies for each nation covering a short history of research and new fields, development of geophysical methods and results, history of exploration and exploitation methods, drilling statistics, and production development and methods.

Three subjects have been proposed for the section on Material and Construction. They deal with construction of high temperature and high pressure apparatus, prevention of corrosion, and limitation of vapor losses.

Technics, Economics

Subjects under Technics and Utilization of Petroleum Products are more numerous. Knock rating and testing, motor fuel classification methods, power measurement, carburetion, analysis of combustion, gasoline substitutes, classification of lubricants, adaptation of lubricants to use in aviation, and substitutes for lubricating oils are included in the list of subjects.

The aim of the section on Economics and Statistics is to pave the way for more effective future study. The main lines for discussion will be world fiscal and customs legislation as applied to oil products, oil terminology, standardization of statistical methods and measurement, present general situation of the oil industry, technical teaching of petroleum subjects, and the geography, history and archeology of petroleum.

Special rates will be granted to members of the congress on French and foreign railways, on steamers and airways, and hotel rates will be standardized. All information can be secured in the United States from EXPRINTER, 22 E. 60th St., New York.

In addition to meetings, which are to be held in the morning only, several visits to plants will be arranged and several instructive trips will be organized both before and after the congress to include both visits to plants of the petroleum industry and some well-known tourist sites. Several official receptions, artistic and social events have also been planned.

Madison Oil "Co-op" Will Close 2 Stations

MADISON, Wis., May 3.—Failure of two out of three service stations of the Madison Oil Co-operative to show a profit will result in the closing of these stations, according to the report of the monthly publication of the co-operative.

The original co-operative station, on Monroe street, will continue and another station may be opened near capitol square.

Dalton T. Clarke, manager, has resigned, announcing promotional days of the Madison "co-op" are over and that he desires promotional type work. A movement among directors to oust Clarke about a year ago resulted in several directors being voted off the board and Clarke reinstated.

Ohio Assembly Fails To Pass Tax Boost

COLUMBUS, O., May 4.—No action had been taken by the Ohio General Assembly on the proposed one-cent increase in the state gasoline tax, as it closed its 92nd regular session April 29.

Those opposing the tax heralded this as a victory, inasmuch as any other days which the legislature will remain at work will be as of the legislative day of April 29.

J. L. Marsh, secretary of the Petroleum Industry Committee of Ohio, who has led the active fight against the proposed tax increase, points out in a bulletin that it is likely that all legislative work would not be completed during this session just ended. According to Marsh, a special session will probably be called within the next 60 or 90 days, and at that time the same groups will undoubtedly make another attempt to push through the tax increase.

Will Study "Co-ops"

WASHINGTON, April 26.—Another survey of farm co-operatives has been launched—this time by the Farm Credit Administration. Already several surveys are under way, by the U. S. Department of Labor and other agencies.

FCA's survey started with the statement that "co-operatives in this country are undergoing a stage of development that makes an inventory of vital importance to the whole co-operative movement."

Among phases of co-ops to be studied are the number and location of associations, business services performed, how capitalized, how financed and operating policies.

Johnson Oil Refining Moves

CHICAGO, April 29. — General offices of the Johnson Oil Refining Co., after April 29, will be at 20 North Wacker Drive, Chicago, according to the company. Offices formerly were at 176 West Adams St. here.

The company has its own production, a 5000-barrel refinery at Cleveland, Okla., about 160 bulk stations and serving around 700 service stations in seven states. It also has several hundred tank cars and a large fleet of motor trucks.

Wyoming Oil Field Map Completed

WASHINGTON, May 3.—The structural geology of the Lance Creek oil field in southeastern Wyoming is depicted in a map recently issued by the Geological Survey, Department of the Interior. The map covers an area of about 60 square miles in Niobrara County, with contours drawn at 100-foot intervals on top of the Dakota sandstone by R. D. Ferguson, petroleum engineer of the survey staff. Well logs and drilling records furnished by individuals and corporations interested in the development of the field supplied data necessary to construct the map.

The map also shows principal roads, streams, and the location and status of 150 wells, and, although it was prepared primarily for administrative purposes under the federal mineral leasing laws, a small edition has been printed for free distribution to oil and gas permittees and lessees and others having a particular interest in the area. Copies may be obtained from the Director of the Biological Survey, Washington, or the supervisor of oil and gas leasing operations, Federal Building, Cas-

Asphalt Session At A.S.T.M. Meet

PHILADELPHIA, May 3. — One of the features of the annual meeting of the American Society for Testing Materials in New York June 28 to July 2 will be two sessions on asphalt, during which 12 papers will be given.

Some of the topics to be covered include bituminous practice on western highways, indentation and shear tests for determining service stability of asphalt plank, the constitution of cracked or uncracked asphalts, research in brick pavement fillers, emulsified asphalt as a soil stabilizer, accelerated weathering tests and wear tests for road materials, aging, compression testing of paving mixtures, and design of asphalt mixtures for underwater construction.

Another feature of the meeting is to be a symposium on the consistency of coverings such as paint, asphalt, tars, petroleum products and lubricants, and rubber compounds. Also the discussion will cover progress in consistency measurement and definitions.

Among those in charge of the A.S.T.M. meeting are K. G. Mackenzie, consulting chemist, The Texas Co., who is chairman of the finance committee, and E. A. Snyder, insulating oil sales, Socony-Vacuum Oil Co., who heads the publicity committee.

Malamphy Returns From Brazil

STATE COLLEGE, Pa.,—May 3.—One of the high lights of the Petroleum and Gas Conference of the Department of Mineral Industries here this week was the address by Mark C. Malamphy, formerly geophysicist with the department of Mineral Production of Brazil, and who recently returned to the U. S. A., on the mineral resources of that country.

Malamphy has been in the Argentine and Brazil for a number of years, engaged in surveys of mineral resources of those countries, including petroleum possibilities, and he showed a thorough and exact knowledge of the possibilities of Brazil. He described minutely the deepest gold mine in that country, which goes down to more than 8000 feet, with whitewashed galleries, and with a refrigerating system to make working conditions more bearable for employes. Malamphy is now a consulting geophysicist of Cumberland, Md.

Calif. May Allowable Is 600,900 Barrels

LOS ANGELES, May 1.—After jockeying around in April, the Central Committee of California Oil Producers has set the May crude production allowable at 600,900 barrels, daily. This represents an increase of 60,900 barrels over the allotment for May, 1936, and is only 83 barrels a day less than the original quota for April, which was later reduced to 580,000 barrels.

The May quota has a 3000-barrel additional allowance to take care of quotas on new wells brought on production during the month and to make adjustments in applying the new quotas.

California production continued to range above 625,000 barrels daily late in the month when the usual practice is to shut down wells which have produced their quota.

Crude Stocks Up

WASHINGTON, May 4.—For the 12th successive week crude oil stocks increased during the seven-day period ending April 17, according to the Bureau of Mines.

Stocks have increased 13,548,000 barrels during these twelve weeks, reaching 298,932,000 barrels on April 17. This was an increase of 1,464,000 barrels from April 10.

DAILY AVERAGE PRODUCTION IMPORTANT DISTRICTS
American Petroleum Inst. Figures

	Week Ended May 1 Barrels	Week Ended April 24 Barrels
Oklahoma City	174,500	172,400
Total Okla....	665,600	670,650
East Texas....	459,250	458,350
Total Texas...	1,387,900	1,381,600
Rodessa	48,950	48,350
Total La.	252,000	249,200
California	620,200	628,900
E. of Rockies.	2,877,250	2,867,500
Total U. S.....	3,497,450	3,496,400
Crude imports.	86,710	92,430
Tot. new sup'ly	3,584,160	3,588,830

Crude Stocks Report Due June 10

N. P. N. News Bureau

WASHINGTON, May 3.—A partial report on the Bureau of Mines' crude oil stock survey will be presented to the Interstate Oil Compact Commission at its meeting June 10 in Santa Fe, New Mexico.

The report will be made by A. G. White, the bureau's chief petroleum economist, who will be accompanied on the trip by Roscoe Cattell, also from the bureau.

Field work in the survey, which is to determine the quantity, character and location of crude stocks in the U. S., has been completed.

Results of the field work will be correlated with data reported by oil companies.

(Thousands of Bbls. of 42 Gals.)

Grade of Crude	April 10	April 17	Change
Pennsylvania grade	3,919	3,917	— 2
Other Appalachian	846	826	— 20
Lima-N. E. Ind.-Michigan	1,043	1,078	+ 35
Illinois-S. W. Indiana	9,694	9,696	+ 2
N. Louisiana and Arkansas	9,592	9,764	+ 172
W. Texas and S. E. New Mexico	29,561	29,628	+ 67
East Texas	23,093	22,989	— 104
Other Mid-Continent	120,023	121,567	+1,544
Gulf Coast	25,372	24,990	— 382
Rocky Mountain	25,803	25,714	— 89
California	28,813	28,726	— 87
Foreign	1,959	2,287	+ 328
Total reported	279,718	281,182	+1,464
*Unreported	17,750	17,750	.....
Total stocks	297,468	298,932	+1,464

*Estimates.

Refinery Crude Runs Up 12,000 Bbls.

DancigerModernization Program Is Under Way

PAMPA, Texas, May 3. — The revamping and replacement of certain equipment planned originally to have been completed last January is just now under way at the Danciger Oil & Refineries, Inc., plant here. The delay to work at this plant on the edge of the "dust bowl" was due to the unprecedented flood early in the year on the Ohio river.

The Danciger company had ordered two heat exchangers from the Henry Vogt Machine Co., at Louisville, Ky. The equipment was being fabricated at the time the flood reached Louisville. The machine shops were above flood stage, the company had its own electric light plant and plenty of fuel, but its shops were shut down so the light plant could be "tied in" to the city's system to supply current to the hospitals.

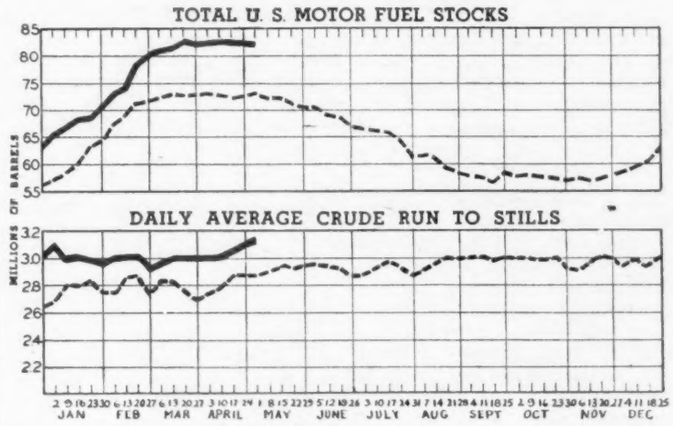
Superintendent Fred E. Shyrock of the Danciger plant also is overseeing the construction of an Ethyl blending plant, which will be in operation within the next week or 10 days.

NEW YORK, May 4.—Bulk motor fuel stocks in the U. S. continued downward the past week. They declined 30,000 barrels, to 76,855,000 barrels the week ended May 1, according to the American Petroleum Institute.

Crude runs to refinery stills, which had increased 70,000 barrels the week ended April 24, increased an additional 12,000 barrels the past week, to 2,914,000 barrels daily average. This is at 88.8 per cent of the country's refining plants. These plants were operating at 80.7 per cent capacity the past week.

Among the larger changes in crude runs were decreases of 33,000 barrels in the Texas Gulf plants and 11,000 barrels in North Louisiana-Arkansas refineries. California plants increased their runs 32,000 barrels and Louisiana Gulf 16,000 barrels.

Stocks of motor fuel at refineries totaled 48,595,000 barrels on May 1, an increase of 26,000 barrels over the previous week. In-transit and terminal stocks totaled 21,267,000 barrels, reflecting a decline of 92,000 barrels. Stocks of unfinished gasoline increased 36,000 barrels, to 6,993,000 barrels.



CURRENT REFINERY OPERATIONS

Districts	Per Cent Capacity Reporting	Daily Average Crude to Stills (Barrels) Week Ended		Per Cent of Reporting Capacity Operated Week Ended		Stocks Thousands of Barrels: Total Finished and Unfinished Motor Fuel*		Stocks Thousands of Barrels: Total Finished and Unfinished Gas & Fuel Oil		'Cracked Gasoline Production: % Total Capacity Reporting	'Cracked Gasoline Production: Daily Av. Production (Barrels) Week Ended	
		May 1	Apr. 24	May 1	Apr. 24	May 1	Apr. 24	May 1	Apr. 24		May 1	Apr. 24
East Coast	100.0	550,000	543,000	82.2	81.2	18,747	18,804	5,817	5,854	100.0	115,000	113,000
Appalachian	88.4	105,000	110,000	81.4	85.3	2,782	2,818	543	530	94.6	24,000	26,000
Ind., Ill., Ky.	92.1	441,000	434,000	94.4	92.9	14,463	14,407	4,534	4,477	98.5	128,000	132,000
Okla., Kans., Mo.	84.6	307,000	310,000	80.8	81.6	9,448	9,537	2,911	2,866	90.3	69,000	73,000
Inland Texas	54.3	115,000	110,000	62.8	60.1	2,099	2,234	1,289	1,255	68.7	30,000	28,000
Texas Gulf	95.5	659,000	692,000	87.1	91.4	11,233	10,710	6,258	6,370	98.0	154,000	153,000
La. Gulf	96.3	141,000	125,000	89.2	79.1	1,466	1,489	1,645	1,616	100.0	27,000	31,000
No. La., Ark.	63.7	44,000	55,000	75.9	94.8	430	473	299	304	77.5	7,000	8,000
Rocky Mt.	69.7	38,000	41,000	61.3	66.1	1,891	2,033	700	719	85.4	11,000	13,000
California	90.9	514,000	482,000	68.9	64.6	14,296	14,380	68,038	67,613	98.0	71,000	82,000
Total Reporting	88.8	2,914,000	2,902,000	80.7	80.4	76,855	76,885	92,034	91,604	94.7	636,000	659,000
Estimated U. S. Total (Bur. of Mines Basis)		3,140,000	3,125,000			82,273	82,303	94,530	94,100		695,000	715,000

*Includes stocks at refineries, in bulk terminals, pipe lines and in transit.

Trend In Anti-Trust Laws Is Described to Refiners

By ALLEN S. JAMES

HOT SPRINGS, Ark., April 28.—Federal legislation—from a review of the anti-trust law to a comprehensive outline of recent congressional acts affecting business practices—was the major topic at the general sessions of the Western Petroleum Refiners Association here April 26, 27 and 28 for its Silver Anniversary convention.

Speakers on the topic were Ralph Horween of Chicago, special counsel for the association, and Fayette B. Dow, its Washington counsel. Attorney Horween handled the anti-trust laws, while Attorney Dow discussed recent federal legislation enacted and also some of this type that has been proposed.

Stating at the outset of his discussion that public concern with monopoly and restraints of trade dates back to antiquity, Horween outlined virtually step by step the development of laws designed to prevent them.

"In 1890, when the Sherman act was adopted," Horween said, "public opinion was convinced that drastic and comprehensive federal legislation was necessary to protect the public from the concentration of power in monopolistic combinations which controlled the market in various fields, and also to preserve competitive opportunity for independent business enterprises. The abuses were so widely recognized that there was practically no opposition."

Outlines Landmarks

Beginning with the government's first attempt to enforce the Sherman act — the case against the so-called Sugar Trust in 1895—the speaker outlined briefly each of the so-called "land-mark" cases in which alleged violations of the anti-trust law were involved. From these cases Horween drew the conclusion that; "The Sherman act was necessary and is necessary today for this reason: Government must protect the public against unreasonable suppression of competition between competitors who act in concert for their own selfish benefit and to the detriment of the public; and must also afford protection against any single company or group of companies which dominate the field so completely that competitors live in fear of economic extinction if they adopt a different policy as to prices or practices, and potential competition dare not enter the field because of the fear of abnormal competitive reprisals."

"In other words, we now realize that what we want is the right kind of competition—call it 'good' competiition, 'fair' competition, 'reasonable' competition, or by any other name you choose. This growing conception has also found expression in the National Industrial Recovery act, the Robinson-Patman act, the Guffey Coal bill, in many bills now pending in Congress, and in state legislation.

Warning Sounded

"These are all legislative attempts to draw the line between good competition and bad competition, between too much competition and the right amount of competition. . . . .I think a warning should be sounded right here, however, against an apparent swing to the other extreme. Desirable as it may be to preserve those standards of competition which are reasonable and fair (gauged by the obvious public interest in maintaining competitors in the field), some legislation seems to be directed at the objective not of preserving the right kind of economic competition, *but of keeping all existing competitors in business.*"

Referring to trade associations, Horween said that they have an outstanding opportunity to furnish a meeting ground for the formation of legitimate trade agreements, to serve as the agency to deal with the government, and in many cases to provide the machinery for putting such agreements into operation.

"Avoid any suspicion," the speaker advised, "of bad faith and any suspicion of a concealed purpose to circumvent the policy of the Sherman act, by giving the government full information in advance; adhere scrupulously and honestly to the methods and purposes so announced; then, if the government disagrees with you, the record shows that it will deal with you on the basis of an honest difference of opinion. . . .and not as 'conspirators' to be ferretted out and punished."

Patman Act

The major portion of counsel Dow's discussion pertained to the Patman act. After outlining the various sections, he stated that, "We have already noticed that many business concerns have decided, and rightly, that the Patman act requires them to make rather drastic alterations in their quantity discount schedules. Other manufacturers have eliminated the advertising allowance from their merchandising system and have replaced it with independent contracts. Far greater changes than these, however, are in store if there appears in the future any likelihood that the act will be seriously enforced. . . .

"The crucial question is, can and will the Patman act be enforced? . . . For meeting this gigantic task there are available only the staffs of the Department of Justice and of the Federal Trade Commission. To this number can be added an indefinitely expandable number of private lawyers in the employ of companies which dare risk the money necessary to bring a suit for triple damages. . . . .The conclusion follows that the rank and file of business men will probably never feel the teeth of the Patman act.

"Despite all this, the Patman act will exert considerable influence upon American business. . . The situation will be comparable to that during the NRA, when concerns which endeavored to abide by the code restrictions found themselves constantly at a disadvantage because their competitors so often violated them with impunity."

Other speakers at the general sessions were H. Merle Smith, merchandising consultant of Chicago, whose subject was "Wildcat Marketing in a Merchandising Age," and Charles T. Evans, public relations counsel of Little Rock, Ark., whose inspirational talk was entitled "Hold On."

Specifications Adopted For Diesel Fuel Oil

HOT SPRINGS, Ark., April 27.—The Western Petroleum Refiners Ass'n today adopted the recommendations of its its specifications committee for Diesel fuel. The specifications are:

Ash	0.01% max.
Carbon residue	.2 % max.
Sulfur	1.0 % max.
Water and sediment	0.05% max.
Cetane number	45 min.
Flash point (Cleveland open)	150F. min.
Pour point	35F. max.

(Note—Except where climatic conditions require a lower pour point.)

Viscosity—S. U. at 100 F., 35-50.

The Diesel fuel sub-committee, in making its recommendation to the specifications committee, stated that "adoption of these specifications will make W.P.R.A. Diesel Fuel an accepted standard product of outstanding merit."

Present Officers Will Serve WPRA For Coming Year

HOT SPRINGS, Ark., April 28.—Members of the Western Petroleum Refiners Ass'n voted at the annual business meeting here today to make no changes in the roster of officers for the ensuing year.

Clyde M. Boggs, president of Kanotex Refining Co., Arkansas City, Kansas, accordingly was returned to the presidency for the third consecutive year.

H. T. Ashton, of the Socony-Vacuum Oil Co., Lubrite division, St. Louis, again was named executive vice president. Roy B. Jones, president of Panhandle Refining Co., Wichita Falls, Texas, T. M. Martin, vice president of Lion Oil Refining Co., El Dorado, Ark., and R. W. McDowell, vice president of Mid-Continent Petroleum Corp., Tulsa, were re-elected vice presidents.

The board re-elected unanimously by the members is composed of the following:

H. W. Camp, Empire Oil & Refining Co., Tulsa; C. W. Cahoon Jr., Olney Oil & Refining Co., Wichita Falls, Texas; Sheldon Clark, Sinclair Refining Co., New York; R. G. Cocanower, Waggoner Refining Co., Vernon, Texas; A. L. Derby, Derby Oil Co., Wichita, Kan.; George P. Dickey, Dickey Refining Co., Wichita, Kan.; T. W. Eason, Eason Oil Co., Enid, Okla.; Alexander Fraser, Shell Petroleum Co., St. Louis; B. H. Gray, Atlas Oil Corp., Shreveport, La.

Board Members

M. J. Grogan, Rodessa Oil & Refining Co., Shreveport; D. P. Hamilton, Root Refining Co., Shreveport; T. A. Helling, El Dorado Refining Co., El Dorado, Kan.; C. L. Henderson, Vickers Petroleum Co., Wichita; F. E. Holsten, Barnsdall Refining Co., Tulsa; R. R. Irwin, Socony-Vacuum Oil Co. (White Eagle division), Kansas City; H. J. Kennedy, Continental Oil Co., Ponca City, Okla.; L. B. McCammon, Ohio Oil Co., Tulsa; B. L. Majewski, Deep Rock Oil Corp., Chicago; F. L. Martin, Sunray Oil Co., Tulsa.

I. A. O'Shaughnessy, Globe Oil & Refining Co., Wichita; L. H. Prichard, Anderson-Prichard Oil Corp., Oklahoma City; L. B. Simmons, Rock Island Refining Co., Duncan, Okla.; W. G. Skelly, Skelly Oil Co., Tulsa; C. S. Smith, National Refining Co., Cleveland; H. A. Trower, Phillips Petroleum Co., Bartlesville, Okla.; J. W. Warner, Tide Water Oil Co., Tulsa; C. B. Watson,

Pure Oil Co., Chicago; Rex H. Winget, Cushing Refining & Gasoline Co., Cushing, Okla., and J. A. Welch, Arkansas Fuel Oil Co., Shreveport. Ex-officio director is W. D. Richardson, Cosden Oil Co., Fort Worth, Tex.

The Executive Committee, chosen by the directors, is composed of Messrs. Boggs, Ashton, Jones, Martin, McDowell, Clark, Henderson, Kennedy, O'Shaughnessy and Simmons.

The Finance Committee is composed of the president, executive vice president and the three vice presidents.

A. V. Bourque was re-named secretary-treasurer and Mary Sue Collins assistant treasurer. No changes were made in the office staff.

Members of the association adopted a resolution expressing appreciation to the program and manufacturing committees and particularly Emby Kaye, chairman of the latter committee, for the excellent general and technical programs prepared; also a resolution thanking equipment manufacturers for their assistance in making the association's Birthday Party so successful.

A. E. Landsittel, chairman of the Octane Brackets committee, reported that, in view of the fact that some members find further revision necessary but that, due to several reasons, no definite recommendations could be made at this time, it had been deemed advisable to continue this work with the same committee, which would meet sometime between June 1 and June 15. By that time, he said, it was highly probable that the factors preventing an immediate recommendation would have been removed. The directors voted to return to Hot Springs for the 1938 convention, provided a satisfactory date can be arranged with the hotel management.

Cake'n Everything At WPRA Birthday Party

HOT SPRINGS, Ark., April 28.—It was a completely successful Birthday Party the Western Petroleum Refiners Ass'n. enjoyed here in celebration of its Silver Anniversary—the kind of party those attending will associate with other cherished memories for many years to come.

In the front of the program was this short message:

"Dear Friends:

"This year's birthday party commemorates the 25th anniversary of the Western Petroleum Refiners Ass'n. Nothing has been spared to celebrate this event in an appropriate way. The Program Committee, hopes, therefore, that you will have a most enjoyable evening.

"With every good wish,

"Cordially,

"C. M. Boggs, president

A. V. Bourque, secretary-treasurer."

And nothing was spared. The 24 equipment manufacturers who had asked that they be permitted to express their congratulations saw to that. They provided the best of refreshments.

The preliminaries started shortly after 6:30 p. m., in the ball room of the Arlington hotel. Dinner was served about an hour later and the menu—like the refreshments—was of the best.

After Master of Ceremonies R. W. McDowell had introduced Tom Collins, literary editor of the Kansas City Journal Post, who kept the party guests in an uproar for seven minutes with his jokes, the birthday cake, candles and all, was wheeled up to the speakers' table. After being photographed profusely, the chef proved it was a real cake by cutting it and serving slices to all comers.

Voted Life Member

HOT SPRINGS, Ark., April 28.—Illness in his family kept George D. Locke, of Tulsa, from the Silver Anniversary convention of the Western Petroleum Refiners Ass'n. It was the first time in many years the familiar and beloved figure of this long-time director and past president was not seen at the association's general sessions and in the committee meetings.

Members of the association missed George Locke. And since he has retired as an official of the Barnsdall Refining Co. and is not at present in the refining industry, these men with whom he has worked so long and faithfully let him know in rather an unusual way that he was missed. They voted a life membership to George D. Locke, the individual.

S. O. Indiana to Fuel United Line Planes

CHICAGO, May 3.—United Air Lines' now deluxe mainliners from Los Angeles and San Francisco to New York will be fueled in the middle west by the Standard Oil Co. of Indiana.

Indiana Standard has obtained a contract with United Air Lines for 13,000,000 gallons of aviation gasoline, it was announced last week.

New schedules effective May 10 will make the west-east flight in 15 hours and 23 minutes, the east-west flight in 17 hours and 39 minutes. The difference in time is due to prevailing winds. When United inaugurated coast to coast flights ten years ago the service was 32 hours, company officials remarked.

Program for 16th Convention Of Natural Gasoline Makers

N. P. N. News Bureau

TULSA, May 3.—Polymerization, gas analyses, vapor lock, present motor cars and their fuel problems, and combined crude stabilization and natural gasoline and pressure maintenance operations will occupy the major portion of the program at the sixteenth annual convention of the Natural Gasoline Association of America. The meetings will be held at the Hotel Tulsa May 19, 20 and 21.

Other features of the program, announced today by Secretary W. F. Lowe, include an address by Col. Ernest O. Thompson of the Texas Railroad Commission; a discussion of the refiners' viewpoint of the natural gasoline industry, by Stewart Giraud of Humble Oil & Refining Co.; presentation of the E. I. Hanlon award to the individual who has contributed the most outstanding development to the industry; and a discussion of trends influencing the natural gasoline business, by W. T. Ziegenhain of The Oil & Gas Journal.

Another innovation at this year's convention will be the holding of an open meeting of the gas contract and technical committees. Following is the program:

May 19, 1937

Morning Session:

Special open meeting of gas contract and technical committees.

Afternoon Session:

"Texas' Contribution to the Natural Gasoline Industry" — Col. E. O. Thompson, Austin, Tex.

President's Address—T. R. Goebel, Shell Petroleum Corp.

Reports of gas testing, gas contract and technical committees.

Appointment of nominating committee.

May 20, 1937

Morning Session: E. L. Peck, Empire Oil & Refining Co., chairman.

"A History of Vapor Lock Research" — G. G. Oberfell, Phillips Petroleum Co.

"Present Motor Cars and Their Fuel Problems" — E. H. Shepard, Chevrolet Motor Co.

"Precision Gas Analyses" — W. F. Fulton, United Gas Public Service Co.

Presentation of Hanlon Award.

Afternoon Session: Emby Kaye, Skelly Oil Co., chairman.

"Combined Crude Stabilization, Natural Gasoline and Pressure Maintenance Operations"—E. O. Bennett and C. R. Williams, Continental Oil Co.

"The Role of the Free Radical in Polymerization" — S. C. Carney, Phillips Petroleum Co.

"Polymerization and What It Means to the Natural Gasoline Industry" — Dr. G. G. Brown, University of Michigan.

"Refiners' Viewpoint"—Steward Giraud, Humble Oil & Refining Co.

May 21, 1937

(Field Men's Session)

Morning Session: H. W. Harts, Natural Gasoline Corp., chairman.

"Operating Kinks' session, entirely devoted to the presentation and discussion of original operating ideas submitted by field, plant and laboratory men, and review of late developments.

Afternoon Session:

"Trends Influencing the Natural Gasoline Industry"—W. T. Ziegenhain, The Oil & Gas Journal.

Presentation of Operating Kinks prizes.

Refiners' Sales Agency Proposed

N. P. N. News Bureau

TULSA, May 3.—Following the presentation to a number of non-integrated refiners at a meeting in Hot Springs, Ark., of a proposal to organize a refinery sales agency, a committee has been named to study further the organization and financing of such a proposal and to report its conclusions before May 27.

The proposed plan was presented in written form and explained by B. L. Majewski, of Deep Rock Oil Corp., Chicago. Mr. Majewski previously had met with the refiners, once on March 12 in Tulsa, and again on March 15 in Kansas City, at which latter date he was requested to complete the plan in writing.

The committee named after the Hot Springs conference is composed of Albert Finston, Bell Oil & Gas Co., chairman; A. E. Landsittel, Globe Oil & Refining Co., Wichita, representing Kansas refiners; L. B. Simmons, Rock Island Refining Co., Duncan, Okla., for Oklahoma; O. W. Crick, Danciger Oil & Refineries, Inc., Tulsa, representing Texas

refiners; T. M. Martin, Lion Oil Refining Co., El Dorado, Ark., representing Arkansas, and Pleas Hardwick, Atlas Oil Corp., Shreveport, La., representing Louisiana refiners.

Another meeting has been called for May 27, in Tulsa, to receive the report of this committee.

The plan is reported to be patterned after the Appalachian Coals, Inc. Proposed name for the sales agency is The Great American Oil Co.

Arkansans to Meet

LITTLE ROCK, Ark., May 3.—The Oil Dealers Association of Arkansas will hold its third annual convention at Pine Bluff on May 20, Secretary W. F. Scarborough announced. At the second annual meeting held in Little Rock last year 560 dealers from 63 counties were present.

J. T. Rhodes, division manager for the Standard Oil Co. of Louisiana, will preside at the one-day meeting. Speakers will include Bob Bailey of Russellville, lieutenant governor of Arkansas, whose subject is "Customer Conscious"; Col. T. H. Barton, president of Lion Oil Refining Co., El Dorado, who will speak on "What the Schuler Field means to Arkansas," and Harvey Hinton, vice president of "555", Little Rock, who will discuss "What Federal Gasoline and Lubricating Oil Taxes Cost Us."

Three members of the Arkansas legislature also will be guest speakers.

Oil for Metal Rolling Taxable as Lubricant

N. P. N. News Bureau

WASHINGTON, May 3.—Oil used in metal-rolling operations is "lubricating oil," and taxable under the lubricating oil tax imposed by the Revenue Act of 1932, according to a ruling of the Bureau of Internal Revenue obtained by National Petroleum Association. The ruling reads, in part:

"Section 601 (c) (1) of the Revenue Act of 1932, as amended, imposes a tax on lubricating oils sold by the manufacturer or producer thereof.

"The term 'lubricating oil' includes all oils, regardless of their origin, which are sold as lubricating oils and all oils which are sold or used for lubrication. It has been held that lubricating oil used in metal rolling operations is used for lubricating purposes and that the tax imposed under the above-mentioned section of the act attaches to the sale or use of oils for such purposes."

WASHINGTON

By A. M. PETTY
N. P. N. Washington News Bureau

From the Crown Block . . .

WASHINGTON, May 3

The suggestion that President Roosevelt set up a committee to study revision of the anti-trust laws seems like a relic of the Hoover administration's policy of "when in doubt appoint a commission."

It emphasizes that the White House hasn't decided—or at least is not ready to tip its hand—on long-range plans for regulating business.

The proposal, for the moment, fits in well with the trust-busting gestures which the administration thinks are called for just now by the rising tide of prices.

But it should not be taken as definite indication of the course President Roosevelt will follow in approaching the problem, as worded by a newsman at the attorney general's press conference, of whether "to break 'em up or regulate 'em."

Attorney General Homer S. Cummings wouldn't agree that the problem was so simple as a choice between breaking up "monopolies" or recognizing their existence and regulating them.

Donald R. Richberg, former NRA general counsel, is an almost-unanimous choice of the dopesters for a post on the anti-trust study committee—if the President decides to appoint one. But John Dickinson, erstwhile chief of the anti-trust division, should be a not-so-dark horse; especially, since the committee was his idea in the first place.

The committee was suggested by Cummings in a letter to the President in which the attorney general threw up the sponge in the collusive-bidding charges against the steel companies, because of the "devitalized" condition of the anti-trust laws.

Reading the letter to newsmen at the White House, just before he went fishing, the President's only comment was that something would be done.

Although not saying so in public, Department of Justice officials well recognize that there is no hope of the anti-trust committee making a study and reporting this year.

Suggested duties of the committee show plainly that its recommendation could include anything from loosening up of the anti-trust laws for agreements among competitors to taking away some rights of patent-holders; including also federal regulation through taxes and tightening of the anti-trust statutes.

Cummings suggests that "there be set up a committee to study the anti-trust laws as to their adequacy, their enforcement and the desirability of amendment, extension and clarification. The committee should have power to enlist the aid of consultant groups both within and without the government, as the studies will naturally cover a wide area, including the relation of anti-monopoly policies to such subjects as patents, taxation, commerce, manufacturing, farming and labor."

Anyone who can remember back to the fanfare accompanying the "council for industrial progress" held here last December by Major George Berry and his cohorts to revive the principles of NIRA should be forgiven if he thinks that the Cummings' committee may turn out to be just another debating society.

Behind all this window-dressing Franklin D. Roosevelt is making his own plans. If it suits his purposes, he may use the Cummings committee to send up some trial balloons; again, he may announce his plans in a surprise message to Congress.

* * *

Iowa Plan Probe?

Some members of the Federal Trade Commission's staff are showing increasing interest in maintenance of retail prices under the so-called Iowa Plan and they want to know what makes the wheels go 'round. They are not attached to the Robinson-Patman law section either.

* * *

A New Ickes

No better indication of the changed attitude of Interior Secretary Harold L. Ickes toward the oil states and oil industry could be found than his jocular reference at the Connally law hearings to his speech in November, 1934, before the Dallas meeting of the American Petroleum Institute.

"I once made a speech in Texas that I wouldn't make now in my own backyard," said Ickes. Smilingly, he added a minute later, "But I don't regret that speech."

* * *

Pipeline Divorcement

A rare demonstration of mental telepathy was given a few days ago during the Connally law hearings.

Chairman Cole of the oil subcommittee told Paul E. Hadlick, secretary of the National Oil Marketers Ass'n, that his proposed amendment for divorcement of the pipelines was not "germane" and suggested that it ought to be a separate bill.

Next day, Congressman J. B. Daly, Philadelphia, dropped in a bill to apply the "commodities clause" of the Interstate Commerce Act to pipelines, which would in effect divorce them from ownership and control of the oil companies.

Another day and another hint from the Cole committee to Hadlick; this time it's the intimation that some members of the committee do not look with favor on restriction of oil imports. The same day Congressman Daly puts in a bill to repeal the excise taxes on oil imports.

Mr. Daly's mental radio hasn't yet picked up Hadlick's suggestion that the major oil companies be disintegrated. But, with some more "juice" turned on, he may tune in on it soon.

* * *

Ickes and Pipelines

About pipelines—there was one remark of Secretary Ickes at the "hot" oil bill hearings which didn't attract much notice.

Ickes was expressing his sympathy for the Independent oil marketer and declaring his belief that other factors—economic factors—than the Connally law were the cause of conditions complained of.

And among the factors entering into the situation which Ickes listed was pipeline control.

COLUMBIA, S. C., May 3.—South Carolina's Senate and House of Representatives have passed a resolution memorializing Congress to eliminate the federal gasoline tax of one cent per gallon.

Pennsylvania Oil Production Problems Feature Conference

By ARCH L. FOSTER
Technical Editor

STATE COLLEGE, Pa., May 3.—Latest methods of prospecting for petroleum were thoroughly discussed during a two-day conference of the Petroleum and Natural Gas section of the Mineral Industries Conference at its seventh meeting just closed. An annual meeting, this conference correlates the efforts of the petroleum industry in Pennsylvania to solve its own peculiar problems.

The electrical method as a substitute for the more expensive and slow core-drilling was another subject on the program. Others included the proper and efficient use of explosives for increasing the ultimate recovery from wells, means by which pipeline corrosion is being fought and prevented, and refining processes to meet modern demands.

Electrical methods based on measuring the conductivity and resistivity of different strata of the earth's crust have proved successful in "logging" a well on which cores have not been made or where core-drilling is too time-consuming or too expensive, W. J. Gillingham of the Schlumberger Well Surveying Corp. of Houston, Texas, showed the meeting. The results obtained by sending electric currents through the different strata through which a well hole passes have been correlated with the nature of those structures, and from these data the log of the well can be plotted and its geologic structures mapped with surprising accuracy, Gillingham stated. A tremendous number of tests by this electric method have been correlated with well cores and logs, until the electric current logs the well very rapidly and exactly, it has been found.

In the Bradford field electric methods are being applied to a study of the structures of that field, to aid in making a geologic map of the area. The electrical data are interpreted by means of mathematical equations which have been derived from the exhaustive information obtained in surveys of a large number of fields especially in the Mid-Continent and southwest, where the method has been used most. By this means certain factors may be determined with even better accuracy than with cores, Gillingham said. Permeability of a sand may be determined this way.

The amount of current flowing through a given stratum to the surface is proportional to the conductivity in that stratum, he said. A dry stratum, one containing no water, is a poor conductor; one containing salt water is a better conductor than one containing fresh water, and these variations are shown by the current flow obtained when a source of electricity is "grounded" at the surface and connected in circuit with an electrode placed in the well within the limits of each stratum to be logged. Since salt water occurs in all producing sands, this method enables the investigator to determine where a sand occurs which does, or may, produce oil. Also, by using a series of drilled wells, spaced at intervals throughout an area, the geologic map of the field may be plotted at much less cost of effort and funds than by depending on core drilling, he pointed out.

Explosives in Water Flooding

Well shooting with large charges of explosives is playing a larger and larger part in the progress of production in Pennsylvania, H. M. Ryder of The Ryder-Scott Co. of Bradford, showed. Not only is this true of producing wells, but explosives are now used extensively in increasing the water input rate of wells used to introduce water in the Bradford flooding operations, he said.

Investigation has shown that the greater the cavity produced in the sand by the "shot", the greater the amount of water which can be injected into the sand, he said. Wells in which the shot cavity is equivalent, according to the best available measurements, to as much as a 40 feet diameter hole have shown better rates of water input than those where the cavity is of, say, ten feet diameter. The amount of explosive necessary for a successful shot varies with the nature of the sand. Some differences of opinion exist as to whether or not tamped shots are better than untamped explosions, Ryder stated, with the weight of evidence strongly in favor of tamping.

The tendency of the cracking effect of an explosive in a well is outward and upward, radially, Paul F. Lewis, head of the duPont's Mid-Continent organization, pointed out. It is therefore necessary to place a shot toward the bottom of the sand which is to be "opened" by it; by placing such a charge as is deemed necessary in the lower half or two-thirds of the stratum, this sand will be cracked and opened more effectively than as if the shot is strung along the entire thickness of the sand, he said.

Lewis also supported vigorously the system of tamping a shot with wet sand, as wet sand packs harder and closer, confining the explosive's force to the area where it is needed. Since an explosive in its expansion follows the path of least resistance, it is necessary to stop the well hole effectively to get the full effect of the explosion, he said. It is also better, Lewis stated, to concentrate the shot in greater quantity in a shorter length of hole, and get deeper penetration of the shot, than to string it out over a longer distance with only a shallow cracking effect on the stratum. The softer the stratum the heavier the shot required to get the same results, he pointed out, using the familiar illustration of the soft earthenware vessel being harder to shatter over a wide area by a blow, than is a piece of fine, hard china.

Two Elements Satisfactory

So far as known now, only two chemical materials, along with lead soaps, are sufficiently satisfactory for the manufacture of extreme pressure lubricants, according to C. W. Georgi, of the Enterprise plant of Quaker State Oil Refining Corp., Buffalo, stated in discussing that problem. These substances are chlorine and sulfur. The successful E. P. lubricants of today will show no troubles in the gears for which they are designed if mechanisms are built so that lubricant temperatures do not go above about 200 F., he said. At present that is about the maximum temperature at which any hypoid gear lubricant is required to operate. Lubricants now show no disintegration, separation or other troubles under this temperature or below, he has found.

Georgi outlined in some detail the major points in which extreme pressure, or hypoid, lubricants must give satisfaction. Of these, he pointed out that load-carrying capacity is of paramount importance, failure in this one property eliminating the lubricant even if all other properties are satisfactory. Freedom from corrosion, maintenance of its properties under working conditions, and uniformity of properties in successive batches, are among the points of primary importance, he said.

The use of the copper strip

Bureau of Mines To Dedicate Research Building on May 17-18

BARTLESVILLE, Okla., April 28.—Dedication of the new four-story research and experimental building recently completed for the petroleum station of the Bureau of Mines here will include a two-day program presented on May 17 and 18.

According to information received from officials, the first day's program will consist of a technical session during the forenoon and afternoon. On May 18 the general dedicatory meeting will be held, attended by state and federal officials, Mid-Continent technologists, and present and past members of the petroleum division staff of the Bureau of Mines. The bureau is increasing its research staff at this station in production, refining and gas technological fields.

Technical Program

The technical program to be presented by bureau engineers and chemists follows:

Monday, May 17

10:00 a.m.—"Crude Oils of the World" — Ludwig Schmidt.

10:00 a.m.—"Oil and Gas Field Studies"—R. E. Heithecker.

11:00 a.m.—"Some Problems Relating to the Disposal of Oil Field Brines"—C. J. Wilhelm and Sam S. Taylor.

11:00 a.m.—"Laboratory Phase of Reservoir Production Studies"—C. K. Eilerts.

1:30 p.m.—"Analytical Separation of Oil-Wax Mixtures" — Joe W. Horne.

1:30 p.m.—"Natural Gas Engineering" — M. A. Schellhardt.

2:30 p.m.—"The Physical and Chemical Properties of Petroleum and Its Fractions" — H. M. Smith, Harry T. Rall and Oscar Blade.

2:30 p.m.—"Oil Recovery Investigation" — D. B. Taliaferro.

3:30 p.m.—"Investigation of the Subsurface Pressure and Temperature in Producing Wells and Reservoirs" — W. B. Berwald.

test for corrosion is useless, and, he implied, positively misleading, even for lubricants which may be used on bronze gears; bronzes are not corroded by materials which may blacken or even seriously corrode metallic copper. Maintenance of E. P. properties in service is the most serious problem in a product which is successful when new, Georgi pointed out, and is one of the problems to which the manufacturer of such lubricants must continuously give his careful attention.

Trouble in hypoid gears due to inadequate lubrication is usually not a matter of gradual failure over a long period of time, Georgi stated in reply to a question. Failure because the lubricant is not doing its job usually occurs in a very short time, and may be complete in a few miles of driving.

Electrical Methods Not Enough

The use of electrical methods for preventing corrosion of pipelines does not and will not supersede coating methods, according to A. L. Black, of Ford Bacon and Davis, Inc., in discussing cathodic protection of these lines. Cathodic methods supplement the use of coatings, and do the job where the coatings may fail or where their use is not practicable or satisfactory, he pointed out. A common practice in cathodic protection of pipe is to place a bed or group of pieces of steel in the ground a short distance from the line at given intervals, interconnect these "anodes" and the pipe, and apply a difference of potential from an electrical source, to keep the line negative to the soil, thus preventing electrolytic corrosion.

Difference of potential exists between ground and line greater than is often known, Black stated. As much as 350 millivolts potential difference may occur between different parts of the same piece of steel, he pointed out. Because of the difference of potential existing between two dissimilar metals in the soil, a galvanic action is utilized to prevent corrosion under certain conditions. For example, a zinc rod, with a steel core for strength, is connected directly to the pipe and buried in the ground with it. As the electrolytic action continues, it may remove the zinc from the rod at a point near the pipe, but the steel core keeps the zinc in electric contact with the pipe, permitting the zinc to be consumed and protecting the pipe.

When this type of protection is inadequate, electric current from an outside source is employed. The buried anodes are connected to the pipe, and themselves are interconnected in groups of, say, five electrodes. The electrical balance of these hookups may be checked by groups, at intervals of a month or other time decided upon for periodic checkup. From this checkup the operator can determine if the current balance should be changed to keep the pipe in the desired negative condition with respect to the ground to prevent corrosion.

The meeting was concluded with an outline of the geophysical prospecting which is being carried out in the Appalachian fields, by L. E. Randall of the Geophysical Co. Inc., of Charleston, W. Va. This organization is working out the details of this entire area, bringing the newest prospecting methods into service in the oldest oil-producing region in America. Natural gas sales problems were discussed in inimitable manner by B. H. Gardner of the Gas and Electric Appliance Co. of Columbus, Ohio, to close the seventh annual Conference.

Jenkins Wins Patent Suit from Sinclair

PORTLAND, Me., May 3. — An award of $2,000,000 was given by a federal court jury here April 29 to Jenkins Petroleum Process Co., Milwaukee, Wis. in its $5,000,000 breach of promise case against Sinclair Refining Co. Litigation has been going on in various courts since 1921. Sinclair attorneys have asked for a new trial.

The case involves cracking processes of the two companies, dating back to the Jenkins patent No. 1226526, granted May 15, 1917 and Jenkins patent No. 1321749, granted November 11, 1919. The Sinclair patent involved is No. 1285200, granted November 19, 1918.

Jenkins company claimed it entered into a contract with Cudahy Company (later Sinclair) whereby Jenkins would obtain benefits of discoveries resulting from improvement of Jenkins process. Plaintiff contended that Sinclair company conducted a successful experiment based on Jenkins process and contention was to whom results of this experiment belonged.

Sinclair company contended that Jenkins backers had led the Cudahy officials into a misleading contract.

Solvent Refining, Diesel Problems, Field Topics on A.P.I. Program

N. P. N. News Bureau

NEW YORK, May 3.—Present day oil field problems, solvent refining, diesel engine lubrication and accident prevention are major topics to be discussed at the seventh mid-year meeting of the American Petroleum Institute, to be held June 1, 2 and 3 at the Broadmoor Hotel, Colorado Springs, Col.

There will be eight group sessions and 50 committee meetings devoted largely to exchange of technical information seeking to solve operating problems. June 1 will be given over to committee meetings. Group sessions of both the production and refining divisions will be held June 2 and 3, with an informal dinner June 2.

The preliminary program follows:

Division of Refining

Wednesday, June 2, 10 a. m.

"Gasoline Blending with a Ratio Flow Controller", by John W. Brown and F. M. Jones, Continental Oil Co., Baltimore, Md.

"Storage of Volatile Fractions of Gasoline", by W. B. Franklin, Humble Oil & Refining Co., Baytown, Tex.

"Refinements of Sweetening Technique", by J. A. Altshuler and F. G. Graves, Stratford Engineering Corp., Kansas City, Mo.

"Effect of Sweetening on Properties of Gasoline", by G. G. Oberfell, Phillips Petroleum Co., Bartlesville, Okla.

"Crude Oil Dehydrating and De-Salting", by J. J. Allinson, Lion Oil Refining Co., El Dorado, Ark.

2 p. m. Session

"Recent Developments in Use of Contact Clays", by S. R. Funston, Filtrol Corp., Philadelphia.

"Solvent Refining from Point of View of Operator", by V. A. Kalichevsky, T. P. Simpson and B. W. Story, Socony-Vacuum Oil Co., Inc., Paulsboro, N. J.

"High Octane Number Blending Stocks Produced by Solvent Extraction", by E. Saegebarth, A. J. Broggini, and E. Steffen, Edeleanu Co., Ltd., New York.

"Experimental Solvent-Extraction Tower Unit", by Herschel G. Smith, Gulf Oil Corp., Philadelphia.

Diesel Problems

Thursday, June 3, 10 a. m.

"The Development of Test Procedure for the Evaluation of Diesel Lubricating Oil", by C. G. A. Rosen, Caterpillar Tractor Co., San Leandro, Calif.

"Diesel Engine Lubricating Problems", by G. C. Wilson, University of Wisconsin, Madison, Wis.

Production Division

Wednesday, June 2, 10 a. m.

Allocation and production problems are sponsored by the central committee on drilling and production practice. Papers on the following subjects are being considered by the program committee, with no speakers yet announced:

"Application of Phase-Equilibrium Data to the Estimation of Oil and Gas Reserves," "Proration of Allowable Oil Production," "A Witness' Duties and Rights" and "Results of Tests on Solubility, Critical Flow Rates, Decline Characteristics and Forecast of Gas-Oil Ratio."

2 p. m. Session

Topics to be included are as follows:

"Cause and Cure of Stuck Drill Pipe, Casing and Tubing," "Standard Practice for Handling Rotary-Drilling Mud," "Importance of Heat Treatment and Design" and "Vibration Problems in Oil Wells."

Thursday, June 3, 10 a. m.

Points for discussion on tubular goods include:

1. Abuse in Handling Tubular Goods.

2. Thread-Measuring Instruments for Tubular Goods.

3. Report on Special Tests on Casing Threads.

2 p. m. Session

Production Practice topics are as follows:

1. Present-Day Practice on Control Devices for Production Service.

2. Methods of Calculating Plunger Strokes in Sucker-Rod Pumps.

3. How to Pump Crooked Holes.

4. Chemical Clean-Out of Oil Wells in California.

Thursday, June 3, 2 p. m.

Accident-Preventing Problems will be discussed at this session as follows:

"Development and Use of Accident-Prevention Manuals," by G. O. Lockwood, Empire Companies, Bartlesville, Okla.

"Transporting Gasoline by Trucks," by J. F. Winchester, Standard Oil Co. of New Jersey, New York.

"Preventing Rotary-Drilling Accidents," by J. B. Roaper, Humble Oil & Refining Co., Houston, Tex.

"The Value of Accident Statistics," by H. N. Blakeslee, American Petroleum Institute, New York.

Renewal of 'Hot' Oil Law Seen as Hearings End

(Continued from page 9)
committee that even if the Connally law is permitted to expire June 16, there will be no breakdown in oil enforcement.

State authorities are handling the problem in 521 other Texas oil fields without the aid of a federal tender board, such as is in East Texas, Thompson said.

Thompson pointed out that there is a changed attitude even in East Texas toward conservation. Moreover, Federal Judge Joseph C. Hutchinson, Jr., ruled in the Atlas Pipe Line case—decided after the Connally law was passed—that Texas could interfere with interstate shipments to enforce state conservation laws, he said.

Earlier, in his prepared statement, Thompson had said that Texas believes continuance of the Connally law is "essential to the complete success of her efforts at conservation.

"It came into being at our request and its administration has been most helpful to our state," said the Texan's statement.

Collett Doubts

But at least one independent producer in Texas—J. D. Collett, Fort Worth, who is president of Mid-Continent Oil & Gas Association — doesn't agree with Thompson.

Collett told the committee that he doubts whether Texas could handle the oil problem alone, expressing the fear that without the Connally law there might be a return to the "hot" oil conditions of a few years ago.

The statement of Secretary of the Interior Ickes that no additional oil legislation is needed now because the states through their own laws and the oil compact are handling the situation, was the hearings' highlight.

Like Secretary Ickes, others have changed their minds about the need for federal oil control —including Russell B. Brown, general counsel for the Independent Petroleum Association of America.

Federal Oil Control

Congressman Wolverton asked Brown if he did not think some federal control was needed.

"Well, I have thought that that was the best remedy and advocated it rather strongly before this committee," Brown replied. "It seemed that the states could not handle the problem as well as the federal government. But since then the states have demonstrated that they can, and are willing, to solve the problem.

"So, I have lost my enthusiasm for federal control," Brown added.

The Connally law has been the largest contributing factor towards stabilization of the petroleum industry, according to Brown. Little "hot" oil being produced in East Texas now, with the federal tender board backing up the state's efforts, he said. A few years back, illegal production amounted to 100,000 barrels a day.

The law should be made permanent to assure retention of efficient personnel, Brown added.

Frey Final Witness

The hearings concluded May 3 with Dr. John W. Frey, member of the defunct Petroleum Administrative Board and now associate director of the Petroleum Conservation Division, as the final witness.

Frey explained the oil jobber's place in the marketing picture. He cited gasoline prices for about a dozen Midwestern cities. Comparing those of Jan. 1, 1935, with today's, he said the jobber's margin, with several exceptions, was larger now than prior to the Connally law.

"It seems incredible," Frey declared, "that the jobbers want a return of waste and chaos for too many of them have bitter recollections of the 'hot' oil days of East Texas prior to the Connally act.

"Every student of marketing knows that the competitive struggle for the consumer's dollar did not begin with the Connally act nor would it end were the states to abandon the conservation of oil and gas and were the Federal Government to withdraw the support given to the states through the prohibition of contraband oil in interstate commerce, Frey concluded.

Committee Unconvinced

As the hearings closed, it appeared that several members—perhaps a majority—of the committee, while sympathetic with the independent oil jobber's plight, are not yet convinced that the "squeeze" is entirely due to the Connally Law.

NAPR Finances

Following Col. Thompson on the stand, Wilmer R. Schuh, president of the National Ass'n. of Petroleum Retailers, strongly advocated extension of the Connally law to protect retailers against "hot" oil competition.

Schuh, who said the NAPR consists of 309 local associations made up of more than 52,000 independently-operated service stations from coast to coast, met with stiff cross-examination by Congressman Wolverton about the association's finances and Schuh's attitude toward the oil cases at Madison, Wis.

Dues of the NAPR are 10 cents a month from each dealer, according to Schuh, but some members are slow in paying. He was unable to say how much has been contributed. But expenses run between $8000 and $12,000 a year; and over the past three years there has been an aggregate deficit of about $18,000 which has been made up by Schuh and about seven other directors, the NAPR president testified in response to Wolverton's questions.

"Parties Unknown"

Replying to Wolverton, the NAPR chief indicated that he was not in sympathy with the government's prosecution of oil companies and officials at Madison.

"I believe," said Schuh, "that I am mentioned in the indictment as one of the 'parties unknown'. I attended many of the so-called stabilization meetings and participated in them.

"But no such meetings were held after the NIRA ended," he pointed out.

Asked by Wolverton how it happened that his views on "stabilization" differed from Independent oil jobbers who were responsible for instigation of the Madison oil cases, Schuh replied:

"I believe they (stabilization meetings) were helpful not only to the retailers, but to the entire industry. Anything that will keep the small refiners in business — and those of us who buy from the small refiners are interested in that — certainly helps the industry. It preserves competition."

Dealer Opposes Bill

Contrary views on the Connally law were expressed by B. F. Remington, Independent service station dealer from Reading, Pa., and a member of Schuh's association.

Remington classed the Connally law with the Tydings-Miller Bill for resale price-maintenance, which President Roosevelt has stamped as a price-fixing and monopolistic instrument. Citing the article in NATIONAL PETROLEUM NEWS of April 21, 1937, by J. Howard Pew, Sun Oil Co., which pointed out how low are prices of petroleum products in comparison with other commodities, Remington said little impetus is needed to send oil prices soaring.

Countering this, Schuh placed in the record April 30 a telegram he received signed O. D. Corey, president, Nebraska Petroleum Marketers, Inc. It reads: "Contact Nebraska U. S. senators and representatives asking them to support Connally "hot" oil law. This will protect 3000 Independent gasoline jobbers and dealers in Nebraska, first, because of conservation of natural resources and, second, market protection as conditions in the past have been much improved and this law should be allowed to function in the future for further protection of the marketing branch of the industry."

This represents the first break so far in the solid front presented by oil jobbers in opposing the bill. At the Senate hearings no word was received from the Nebraska association. But opposition was registered, by personal appearance in most instances, on behalf of Independent oil marketers' associations in the New England states, New York, Pennsylvania, Virginia, North Carolina, South Carolina, Georgia, Kentucky, Michigan, Missouri, and Wisconsin.

Cites Refinery Prices

First jobber witness to oppose the bill was T. O. Baucum, Jackson Purchase Oil Co., Murray, Ky., chairman of the jobbers' division of the Kentucky Petroleum Marketers Ass'n.

Baucum cited how the price his company paid for gasoline at the refinery had risen, since enactment of the Connally law, from 4.375 cents on Feb. 25, 1935, to 6.125 cents on April 26, 1937.

"You will note," Baucum told the committee April 28, "that the refinery price since the Connally law has advanced 1.75 cents. During this time the major oil companies have advanced the tank wagon, or dealer price, 0.5 cent which reflects a difference of 1.25 cents to be absorbed by the jobber, thereby reducing our gross operating jobber margin to 1.77 cents a gallon."

Baucum said that major oil companies are paying their commission agents, whose only investment is a truck chassis or two, 1.75 cents a gallon.

"So, the jobber gets only 0.02 cent more than the commission agent, even though the jobber, buying in tank-car lots, with an investment in real estate, bulk plants, service stations, trucks, and dealer equipment, pays pump and bulk plant city privi-

lege taxes, and all other taxes and operating expenses," he pointed out.

"It just doesn't make sense," Baucum declared. And Congressman Pettengill, at least, agrees with him.

"Jobber In Nut-Cracker"

It is quite apparent, Pettengill commented, that with rising refinery prices and no proportionate increase in retail prices, that "the jobber is caught in a nut-cracker."

A brief for Dixie Interstate, an organization of 131 independent oil jobbers in ten states selling under the "Dixie" brand, was filed in opposition to the Connally law by Wm. Earle White, Petersburg, Va., attorney for Delta Oil Co.

"The oil business," according to the Dixie brief, "should be fully regulated or left entirely alone. There should be a free market all the way from the oil well to the consumer's gas tank, or there should be regulation not only in production but in refining, transportation and marketing.

"Such bills as the Connally law, which try to control production, but leave marketing unregulated, afford the major integrated companies, engaged in all branches of the oil business, an opportunity to choke off competitors engaged only in one branch. The effect of such regulation is to compel independent marketers, such as the jobbers composing the Dixie group, to buy in a controlled market, while they have to sell in an open market in competition with the very people from whom they are compelled to secure a supply of merchandise."

White also submitted a brief for the Virginia Petroleum Jobbers Ass'n. in the absence of L. D. Kirkmyer, James River Oil Co., Richmond, Va., president, who was kept away by rising flood waters.

Resent Intimations

Protesting against intimations of Senator Tom Connally, Texas, at the senate hearings that those opposing his bill wanted to buy "hot" oil, the Virginia brief said:

"No member of the Virginia Petroleum Jobbers Ass'n. ever bought any 'hot' oil, nor do they want to buy any now. Members of this association are not price-cutters, but practically all of them sell an advertised brand of product at the regular market price, and 'hot' oil would upset them from a competitive standpoint as much as any other group in the industry."

The complaint of the Virginia jobbers is that the Connally law has aided "a concerted effort by the integrated major oil companies to control the supply of petroleum products." They cited difficulties in obtaining supplies except under contract to sell a major-company brand and pointed out that jobber margins are lower than in 1935, despite increased labor and equipment costs.

Thursday's Hearings

The parade of witnesses against the bill, was resumed April 29, with more than two hours taken up by testimony and cross-examination of Paul E. Hadlick, secretary of National Oil Marketers Ass'n.

Independent oil jobbers would not oppose the Connally law, if it was amended to protect them against "the nefarious competition of those oil companies who, fortified by profits from production, refining and transportation, are putting the squeeze on those engaged only in marketing."

Without this safeguard, independent marketers are entitled either to "protection" afforded by free competition or an assured return on their investment, he added. In other words, if one branch (production) is assured of profits by federal intervention, then the same treatment should be accorded the marketing branch.

Hadlick proposed an amendment to the Connally law which would disintegrate the major oil companies and divorce the pipelines. But Chairman Cole indicated that he regarded the proposal as not "germane", suggesting that it should be incorporated in a separate bill.

Comments on Dyer Act

Hadlick denied that there is an analogy between the Connally law and the Dyer act, which prohibits interstate transportation of stolen automobiles.

"The states," he said, "make it a felony to steal an automobile; but they do not legislate or join a compact, or secure a government bureau's 'forecast', to say just how many automobiles may be stolen before the action becomes criminal."

Hadlick in this was taking a crack at the federally-approved interstate oil compact and the Bureau of Mines' monthly forecasts of demand for crude oil and gasoline. These two factors, plus the Connally law and the oil import taxes, have enabled the major oil companies to "squeeze" the independent marketer, according to Hadlick.

As evidence that the Connally law is price-fixing, Hadlick cited defense counsel's argument at the Madison oil case removal proceedings at Houston recently to the effect that the Connally law had made gasoline scarce to the point where the price naturally rose.

Opposition of consumers to the bill, in the form of 1200 signed post cards from a single Pennsylvania county, was presented by Clarence J. Schock, Mt. Joy, Pa.

Jobber 50 Years

An independent oil jobber of 50 years' standing, Schock on behalf of the Independent Petroleum Jobbers Ass'n. of Pennsylvania reiterated the arguments he made against the bill at Senate hearings.

Schock charged that there is a "monopolistic control of supply and price" of petroleum products, asking that Congress make an investigation of the entire oil industry to determine results of state proration laws, the interstate oil compact, and the Connally law.

The Pennsylvanian told the committee that major oil companies are buying gasoline from independent refiners at the Gulf at prices plus ocean freight ranging from 1.0 to 1.5 cents higher than the price at which they are "known to sell at".

R. E. Breed, Baltimore, representing Maryland independent marketers, declared that the Connally law "stifles competition". Although not a refiner, Breed's company name is General Refining Co. He explained that they wanted to use the brand-name "General", but couldn't call themselves General Oil Co. so they inserted "Refining".

Collett Testifies

Now and then, Chairman Cole sandwiched in a witness favorable to the bill. One such was J. D. Collett, Fort Worth independent producer, who testified briefly and then said he was ready for questions.

Congressman Wolverton was surprised at the frankness of Collett's reply when asked if conservation or stabilization was the motive for his support of the Connally law.

"I cannot divorce conservation from the question of waste and what constitutes wasteful conditions," Collett replied. "Conservation of the capital assets of the companies, individuals and operators in the oil business is just as important as the actual saving of the property, or the prevention of waste of a barrel of oil.

"I think it is just as important to save the dollars of the people who have put their money in this as it is to save the actual oil itself.

"Conservation and stabilization of the oil business are tied together," Collett concluded.

W. R. McCain, Springfield, Mo., representing four associations of independent oil jobbers in Missouri, stated that jobbers are not averse to producers getting a fair price for their oil nor do they oppose conservation and the prevention of waste. But they object to laws, passed for these purposes, being used to promote "regimentation, control, price-fixing and monopoly," he said.

In support of his contention that profits from operations in the other branches are being used to subsidize losses in marketing, McCain quoted from a prospectus, dated Feb. 5, 1937, of The Texas Co., as follows:

"While both domestic and foreign marketing operations, considered as departments, have shown losses in each of the years 1930 to 1935, the marketing operations of the corporation's subsidiaries are, in my opinion, as good as or better than average good practice in the industry. Costs of marketing are low and the marketing departments, both domestic and foreign, have performed well their primary function of providing assured outlet for the corporation's subsidiaries and thus permitting them to operate broadly in the other branches of the oil industry."

The above-quoted paragraph was from a report by E. DeGolyer, not on the Texaco staff, which was included in the prospectus, it was explained.

Representing the Oil Men's Ass'n. of New England, Fred E. Bergfors, Quincy (Mass.) Oil Co., filed a brief opposing extension of the Connally law.

Since operation of this law, Bergfors said, the mortality rate among independent oil jobbers has been higher than during any period before. Quite the contrary has been the condition of the integrated oil companies, as indicated by their financial statements, he added. Oil jobbers made money in the years 1931, 1932, 1933 and 1934 — preceding the Connally law, Bergfors said in reply to questions.

A statement, urging that the Connally law be made permanent, was filed for Harold B. Fell, executive vice-president of the National Stripper Well Ass'n., who was unable to be present.

Stripper wells, making up 250,000 out of some 340,000 producing wells in the U. S., represent about 60 per cent of the total oil reserves, said Fell's brief. Operators of these wells need the protection of the Connally law against "hot" oil because in times of "wasteful over-production" in the past many stripper wells were abandoned, according to Fell.

Letters opposing the bill on behalf of independent oil jobbers associations in New York and Iowa were put into the record.

High Spots of Next Week's Meetings

Coming Meetings

General Expositions

The Greater Texas and Pan American Exposition, Dallas, June 12 to Oct. 31.

The Great Lakes Exposition, Lake Front, Cleveland, Ohio, May 29 to Sept. 6.

Oil Meetings

American Gas Association, Natural Gas Dept., Kansas City, Mo., May 10 to 15.

Oil Dealers Association of Arkansas, Little Rock, Ark., May 19.

Natural Gasoline Association of America, Hotel Tulsa, Tulsa, Okla., May 19, 20 and 21.

Virginia Oil Men's Association, Hotel Patrick Henry, Roanoke, Va., May 21.

National Association of Purchasing Agents (Oil Company Buyers Group), annual convention, William Penn Hotel, Pittsburgh, Pa., May 23 to 27.

National Oil Well Superintendents Association, Fort Worth, Texas, May 26, 27 and 28.

American Petroleum Institute, Mid-Year Meeting, Broadmoor Hotel, Colorado Springs, Colo., June 1, 2, 3.

Oil Field, Gas Well-Refinery Worker of America, Kansas City, Mo., June 7.

Pennsylvania Grade Crude Oil Association, annual meeting, on Great Lakes S. S. "Seeandbee," sailing from Buffalo, N. Y., June 10, 11 and 12.

Interstate Oil Compact Commission Meeting, Santa Fe, New Mexico, June 11.

Second World Petroleum Congress, during International Exposition, Paris, France, June 14 to 18.

Oil & Gas Golden Celebration, Findlay, Ohio, June 20 to 26.

National Oil Scouts Association, Dallas, Texas, June 25 to 26.

American Society for Testing Materials, 40th annual meeting, and 4th exhibit of testing apparatus, The Waldorf-Astoria, New York City, June 28 to July 2.

Kentucky Petroleum Marketers Association, Annual Fall Conference and Golf Tournament, Louisville, Sept. 7 and 8.

National Petroleum Association, annual meeting, Hotel Traymore, Atlantic City, N. J., Sept. 15, 16 and 17.

National Association of Petroleum Retailers, fifth national convention, Rochester, N. Y., Sept. 27 to Oct. 1.

American Gas Association, 19th annual convention, Cleveland, Ohio, Sept. 27 to Oct. 1.

Society of Automotive Engineers, Fuels and Lubricants Regional meeting, Tulsa, Okla., Sept. 30 and Oct. 1.

Society of Automotive Engineers, National Aircraft Production meeting, Ambassador Hotel, Los Angeles, Calif., Oct. 7, 8 and 9.

26th National Safety Congress and Exposition, Kansas City, Mo., Oct. 11 to 15.

Oil-World Exposition, Inc., Houston, Texas, Oct. 11 to 16.

Independent Petroleum Association of America, Houston, Texas, Oct. 14, 15 and 16.

National Tax Association, 30th annual conference, The Lord Baltimore Hotel, Baltimore, Md., Oct. 25 to 28.

Society of Automotive Engineers, annual dinner, Commodore Hotel, New York City, Oct. 28.

Mid-Continent Oil & Gas Association of Texas, annual meeting and convention, Dallas, Texas, Oct. 29 and 30.

American Petroleum Institute, 18th annual meeting, Stevens Hotel, Chicago, Ill., Nov. 9 to 12.

Exposition of Chemical Industries, Grand Central Palace, New York, N. Y., Dec. 6 to 11.

Society of Automotive Engineers, National Production meeting, Flint, Mich., Dec. 8, 9 and 10.

American Gas Assn., Natural Gas Dept., Municipal Auditorium, Kansas City, Mo., May 10 to 14.

May 12, Afternoon:

"Drilling Equipment Improvements and Changes", by C. E. Reistle, Jr., Humble Oil & Refining Co., Houston.

Discussion of "Prolongation of the Life of Gas Wells", paper by L. A. Farmer, Oklahoma Natural Gas Co., by L. G. Rheinberger, Sinclair Prairie Oil Marketing Co., Tulsa.

May 13, Morning:

"Maintaining High Efficiencies in Pipe Lines", by J. C. Reinbold, Panhandle Eastern Pipe Line Co., Kansas City.

"Gas-Reserve Problems Dealing with Availability of Natural Gas from Gas Reservoirs and Conservation of Gas in its Occurrence with Oil", by E. L. Rawlins, United Gas Public Service Co., Houston.

Index to Advertisers

This index is published as a convenience to the reader. Every care is taken to make it accurate, but National Petroleum News assumes no responsibility for errors or omissions

American Weekly, The 55

Badger & Sons Co., E. B. 77
Bayou State Oil Corp. 50
Berry Sons' Co., James B. .. 67
Blackmer Rotary Pump Co. ..... Fourth Cover

Champion Spark Plug Co. 7
Check-Chart Corp. 45
Cities Service Co. 61
Classified Advertisements 40
Conewango Refining Co. 64

Dyestuffs & Chemicals, Inc. .. 66

Electric Storage Battery Co. 4
Erie Meter Systems, Inc. 41
Esso, Inc. 58
Exide Batteries 4

Freedom Oil Works Co. 59

Gasoline Products Co. 68
Gilbert & Barker Mfg. Co. ... 47
Goodrich Rubber Co., B. F. .. 3
Goodyear Tire & Rubber Co. 49

Jiffy Lubricator Co. 67
Johnson Co., S. T. 57

Micro-Westco, Inc. 58
Morrison Bros. ..... Second Cover

National Petroleum Mutual Fire Ins. Co. 51
National Petroleum News ... 67

Ohio Oil Co. 29
Overhead Door Corp. 51

Pennsylvania Flexible Metallic Tubing Co. 67
Pennsylvania Grade Crude Oil Assn. 6
Penola, Inc. 63
Phillips Petroleum Co. 52
Pittsburgh Equitable Meter Co. 1

Shell 5
Sinclair Refining Co., Inc. ... 42
Southwest Pump Co. 2

Technical Chemical Co. 65
Thiokol Corp. 65

Universal Oil Products Co. .. 71

Wood Industries, Inc., Gar. ..... Third Cover

Contents

NEWS

Renewal of "Hot" Oil Laws Seen as Hearings End 9
Standard Employes Hold to Company Unions .. 9
Housewives Protest Proposed Fuel Oil Tax ... 9
U. S. Aid to Resale Price Laws Is Hit by Roosevelt 10
Report Sun Oil and Union at Odds on Retail Price 11
Editorials 14
Proxy Struggle Involves Management of Tidewater 17
Standard of New Jersey Gives Statement of Labor Policy 21
Trend in Anti-Trust Laws Is Described to Refiners 24a
Present Officers Will Serve WPRA for Coming Year 24a
Program for 16th Convention of Natural Gasoline Makers 24b
Pennsylvania Oil Production Problems Feature Conference 24d
Bureau of Mines to Dedicate Research Building on May 17-18.....24d
Solvent Refining, Diesel Problems, Field Topics on A.P.I. Program 24e

MARKETS

Mid-Continent 25
California 25
Chicago 26
Coastal 26
Eastern 26
Wax 30
Pennsylvania 30
Fuel Oil 30
Refinery Tank Car Markets 27, 28, 31
Tank Wagon, Service Station Markets 32, 33, 34
Seaboard Markets ...35, 36
Crude Oil Markets...37, 38

MERCHANDISING

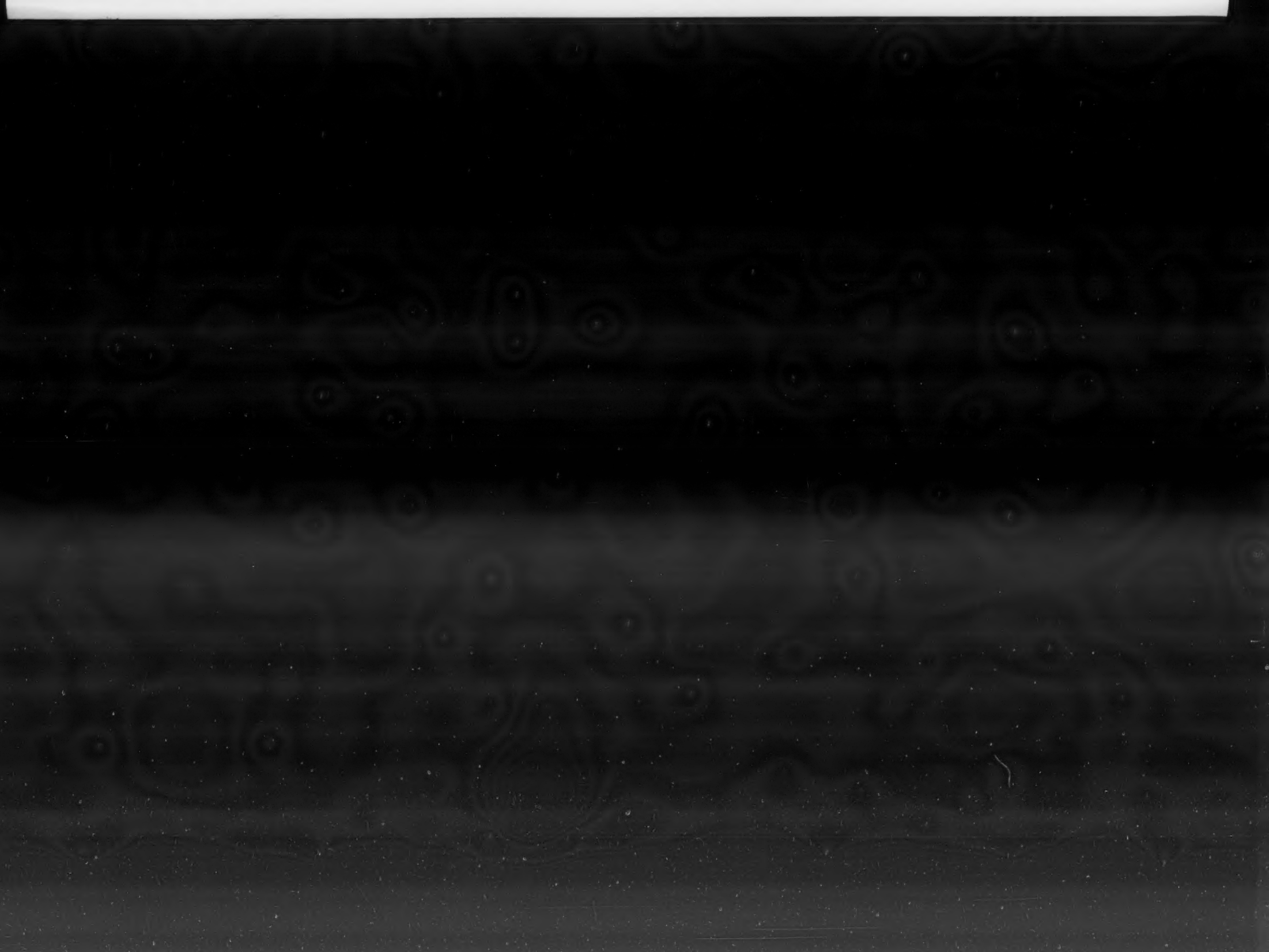
Showmanship is Feature of West Coast Station Designs 43
Third Grade Sales Yield to Better Grades in 1936 53
Federal Aid Puts Diesels in More Extensive Use 54
Co-operation Urged Between Burner and Fuel Oil Industries 56
Multi-Metered Lube Oil Truck Saves Two Hours a Day 60
New England Trucker Fixes Costs on Per Hour and Per Mile Basis 60
Newest Shell Tank Truck Is Ultra-Streamlined.. 62

TECHNICAL

Chemical and Physical Methods of Salt Removal from Crude—*by E. R. Jones*..... 72
A Suggested Mechanism for Polymerization-Hydrogenation Reactions—*by Rafael Fussteig* 75

DEPARTMENTS

Mid-Continent Skyline .. 16
Midwest Marketer 19
Washington from the Crown Block 24c
Letters to the Editor.... 51
Trademarks 59



Markets

Refinery Prices Rise On Increased Demand

N. P. N. News Bureau
CLEVELAND, May 3

THE upward trend of refinery prices generally, which has been under way for several weeks, continued to prevail throughout the last week of April. Consumption of gasoline was increasing by leaps and bounds, reports indicated, and with it there was a proportionate increase in distributor demand.

A 0.5-cent advance in tank wagon and service station prices of gasoline by Standard of Ohio featured retail markets. The Standard continued its policy of moving its retail prices up and down with each 0.5-cent advance or decline in the Oklahoma refinery market. Prices in the latter market have advanced 0.5-cent since March 15, when Standard made its last change.

Volume of trading in several refinery districts was unusually heavy. There were inquiries for, and sales of, several products in 50 to 100-car lots,—just like the good old days, as several observers remarked.

Gasoline prices were up 0.125 cent in all Mid-Continent districts and in the Mid-Western Tank Car Market. Pennsylvania low octane prices were up 0.25 cent. There was active bidding for neutral oils at higher prices in Pennsylvania. Fuel oils, kerosine and gasoline were quoted higher at many points along the eastern seaboard.

Mid-Continent

Gasoline Prices Higher

N. P. N. News Bureau
TULSA, May 3

● Refiners in most Mid-Continent districts advanced gasoline prices 0.125 cent early the last week of April. The change came at a time when motor fuels were actively sought by jobbers and brokers, both for immediate and future delivery.

Many gasoline orders for one and two cars were received last week tagged "for rush shipment." Refiners took this as an indication some jobbers had permitted stocks to dwindle too low. With increased consumption, jobbers found it necessary to build up gasoline stocks immediately. This buying for rush shipment tapered off, however, in several marketing areas when inclement weather slowed down motoring.

There were numerous jobbers—small and large alike—who were inquiring for gasoline for shipment over May. Apparently with all the talk of advancing crude prices, possibility of increased costs and unsettled labor conditions, jobbers were attempting to buy ahead. There was also the factor of having an assured supply of gasoline, and in the final analysis this factor probably played an important part in this buying, observers believed.

Refiners were hesitant to quote on gasoline futures at a flat price. Most quotations for future delivery were on a market-price-date-of-shipment basis.

One North Texas refiner sold 50 cars of gasoline to a jobber for May delivery on this basis. Numerous other future sales for small quantities were reported from other districts.

East Texas, North Louisiana and Arkansas refiners were in good position as far as gasoline stocks were concerned. Independent refiners had little gasoline to sell for shipment into the northern and middle-western marketing territory. East Texas gasoline was moving either to the Gulf Coast or locally within Texas. These two outlets were supplying a market for virtually the entire output of all East Texas refiners. This left the southeastern market almost entirely to Louisiana-Arkansas refiners. East Texas normally is an important factor in this southeastern market, but this has not been the case for some time.

Demand for natural gasoline for shipment within Texas and to the Gulf Coast continued active. Two large manufacturers continued to pick up all supplies available. Future, as well as immediate delivery, was specified in their inquiries.

With Oklahoma Grade 26-70 priced 0.125 cent under Breckenridge natural, surplus Oklahoma supplies also were being shipped to the Gulf coast.

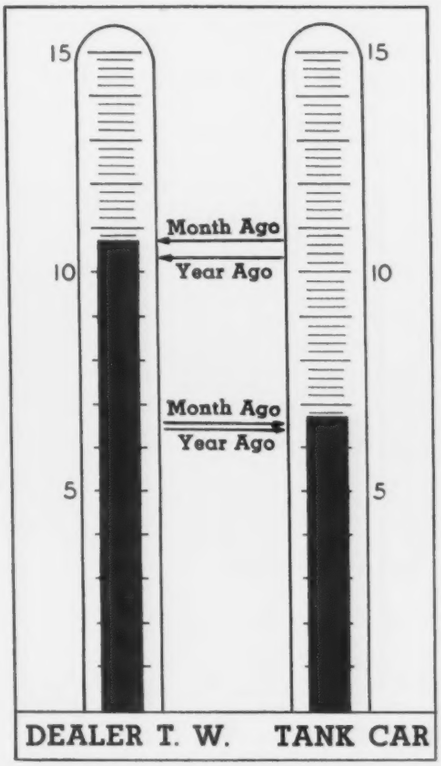
Kerosine shipments into some of the northern agricultural regions were off some last week due to rains and snows. This letup in demand, however, was believed to be only temporary. Renewed activity was expected by most sellers when fields clear up.

Reports of price concessions for Mid-Continent lubricating oils were encountered last week. So far majority of quotations and sales have not been at reduced levels.

Wax was closely held. Few refiners had this product to sell in the open market.

N. P. N. Gasoline Index

(Copyright)



Dealer index is an average of "undivided" dealer prices, ex-tax, in 50 cities. Tank car index is a weighted average of 13 wholesale markets for regular-grade gasoline. The gasoline price index this week represents the following prices in cents per gallon:

	Dealer T. W.	Tank Car
May 3	10.65	6.69
Month ago	10.67	6.55
Year ago	10.35	6.47

California

Demand Lighter

N. P. N. News Bureau
LOS ANGELES, May 1

● California petroleum markets were in the doldrums the past week as buyers and sellers contemplated today's opening of the fishing season. Prices were in most particulars unchanged from those of a week ago and demand was light for many products.

Continued low quotations by a large independent refiner in the Los Angeles Basin in competitive brands of gasoline did not help to make these piscatorial excursions any more pleasurable. This company was posting a rack price of 8 cents a gallon on unbranded products, exclusive of all tax, and 8.5 cents on deliveries of its branded goods. This compares with a minimum of 9.5 cents on major and large independent third grade gasolines.

The net result of these low rack quotations was to drag the price on offerings by other independents to around the same level and to precipitate an increase in the

number of cut price signs at service stations in this area.

Another factor to enter the local market the past week was the reopening of a refinery that was formerly owned by Western Oil & Refining Co. and which has been shut down for several years. Independent interests, understood to be affiliated with the parties responsible for bringing Texas gasoline into the Pacific Coast market a year ago, were expected to open the plant on crude from Kettleman Hills.

This development had marketing leaders on edge because the highly competitive Los Angeles market was declared not capable of absorbing any additional quantity of low-priced gasoline without suffering a set-back.

A scarcity of supply was reported in lighter burning oils with prices firm at slightly higher levels. A 32-34 gravity gas oil was quoted at $1.16 to $1.26 at several independent plants and the range was from here to upward of $1.68 a barrel in tank car lots. Some K. D. stock could be had at $1.26 to $1.37, but the supply was moderate.

Bulk suppliers continued to receive inquiries from foreign points for gasoline but were unable to cope with Gulf prices and the high Pacific tanker rates. Quotations in this market were unchanged.

Chicago

Prices Steady

N. P. N. News Bureau
CHICAGO, May 3

● The first of May ushered in good weather over much of the middle west, after a characteristic April of showers. With total rainfall the heaviest in seven years in some sections, agricultural demand for most products had slowed down considerably. Fields were too wet to work in most sections. Wet weather also hampered consumption of motor fuel.

As the Mid-Western gasoline market entered May predictions were free that gasoline was embarking on a season of consumption which would shatter all previous records. Most estimates of the expected increase in motor fuel demand were around 15 per cent higher than 1936.

Gasoline entered May with prices as steady as they have been so far this year. Despite present gasoline stocks figures and crude throughput, which some leaders of the industry insist are excessive, prices generally have been steady. While price shading has flared up at various times since the first of the year, the past month has witnessed a decrease of lower priced offerings.

Inferior grades of gasoline were offered on the market at various times last week. These offerings generally were at 0.125 to 0.25 cent under minimums for representative material.

As Pennsylvania low octane gasoline prices advanced, the territory into which it could move competitively with Group 3 gasoline narrowed. Michigan gasoline also was holding to its normal channels of trade, which take in the lower peninsula of that state and the southeastern edge of Wisconsin. Gasoline from other "differential" refineries was not a disturbing factor.

Reports from resellers here late in the week were that East Texas has virtually dried up, at least as a source for re-sale agents. Offerings to resellers from Louisiana, North Texas and Oklahoma also were reported scarcer.

Kerosine continued steady although shipments were reported disappointing to sellers here. Reports were that wet ground has virtually stopped farm work.

Indications continued to point to a sharp loss in kerosine volume to tractor fuels in agricultural activity. Sellers here were offering two grades of tractor fuel. One is subject to motor fuel taxes, although exemption is provided. The other is a tax-free product. Reports were that by far the bulk of tractor fuel sales favor the latter product.

Coastal

Gas Oil Demand Holds

N. P. N. News Bureau
NEW YORK, May 3

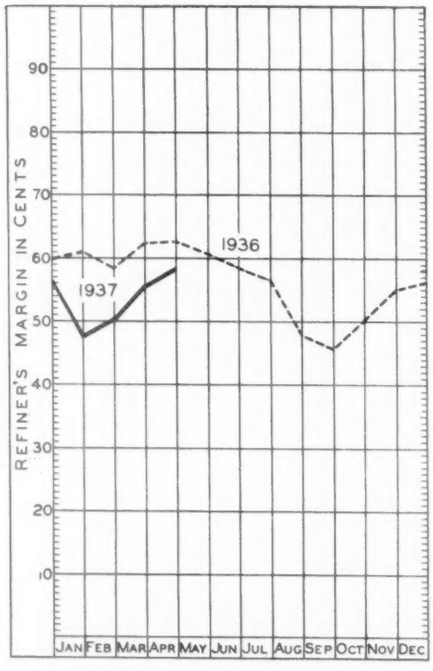
● The demand for gas and light fuel oils, which has been persistent this spring, continued active during the week ended May 1. Generally speaking, most of the inquiries reported were from export buyers, but the only cargo sale reported in the open market was for domestic lifting.

The domestic purchase involved a full cargo of No. 4 fuel oil at 3.875 cents a gallon, f.o.b. the Gulf, and was for coastwise movement during late June. Traders said they were handicapped in making sales of gas oil due to the tightness of the present market as to supplies and the continued difficulty in obtaining boats for the required positions. Traders generally reported that no open market cargoes of No. 2 fuel or 30 plus translucent or transparent gas oil were available at under 4 cents a gallon, f.o.b. the Gulf.

Opinions varied as to actual going prices for open market cargo sales of gasoline and the market was difficult to determine due to lack of reported sales. Consensus, however, was that 65 octane and above grade was not available at under 6.25 cents and quotations for higher octane grades were around 6.25 to 6.375 cents, traders said.

Kerosine was dull insofar as actual business was concerned. An occasional inquiry was reported but no sales developed. Quotations were heard at around 4.5 cents and up for the 41-43 w.w. kerosine for domestic lifting, but several traders said they were now unable to interest suppliers at this price.

N. P. N. Refinery Index



Refinery Index is the calculated average return from refining a barrel of 36 gravity Mid-Continent crude. The index this month indicates the following margins in cents per barrel between cost of crude and selling price of products (See N. P. N. Aug. 28, 1935 page 26):

Date	Margin
May 3	58.2
Month ago	55.4
Year ago	62.7

Eastern

Gasoline Demand Good

N. P. N. News Bureau
NEW YORK, May 3

● Demand for gasoline at eastern seaboard terminals was good last week, suppliers reported. Several said that demand for barge lots of high octane was at a higher rate than they were able to take care of, due to lack of gasoline in storage. Most suppliers reported they still were more interested in taking care of contract customers than in open market business.

Gasoline prices were somewhat mixed in trends as the week ended. Suppliers at Baltimore, who had been asking 7 cents a gallon for tank cars of 65 octane and above gasoline, moved up to 7.25 cents. Others had already been quoting this price for delivery from Baltimore. Some suppliers in the Philadelphia district also advanced this grade 0.25 cent to 7.25 cents, f.o.b. Philadelphia, for tank car movement. Others in that market, however, had made no change as the week ended.

Contrasted with these upward trends in the wholesale gasoline markets, service station markets were unsettled at some points. Dealers in metropolitan New York City were reported having trouble maintaining their posted prices, despite their unchanged buying prices. Market in boroughs of Manhattan and Bronx was reported fairly steady at six gallons for 98 cents, tax included, for regular "branded" gasoline, but in boroughs of Brooklyn and Queens many stations were reported selling seven gallons for 98 cents, tax included. Service station prices in parts of Boston marketing area also were reported at lower levels.

A number of major marketers advanced posted prices for kerosine to 5.75 and 5.875 cents at seaboard terminals. Others, how-

REFINERY TANK CAR MARKETS

Prices in cents per gallon, tank car lots, except where otherwise noted. Inter-refinery and export prices not included. Federal, state or municipal taxes not included. Prices quoted apply on products made from legally produced crude.

Gasoline *and* Naphtha

OKLAHOMA (Prices represent majority of quotations or sales, f.o.b. Oklahoma refineries)

U. S. Motor gasoline, by octane numbers:

	May 3	April 26	April 19
62 octane and below	5.125– 5.25	5.125– 5.25	5.00 – 5.25
63-67 octane	5.50	5.50	5.375– 5.50
68-70 octane (regular)	6.125– 6.25	6.125– 6.25	6.00 – 6.25
60-62, 400 e.p. gasoline	5.125– 5.25	5.125– 5.25	5.00 – 5.25
64-66, 375 e.p. gasoline	*5.25 – 5.375	*5.25 – 5.375	*5.125– 5.375
68-70, 350-360 e.p. gasoline	*5.25 – 5.625	*5.25 – 5.625	*5.125– 5.625

*Nominal.

WESTERN PENNA. (Prices represent majority of quotations or sales)

Bradford-Warren:			
52-54 naphtha	5.50 – 5.625	5.25 – 5.375	5.00 – 5.125
Motor gasoline:			
U.S. Motor (58-62°)	5.625– 5.75	5.375– 5.50	5.00 – 5.125
Minimum 60 octane	*6.875– 7.125	*6.875– 7.00	*6.875– 7.00
Minimum 65 octane	*7.125– 7.25	*7.125– 7.25	*7.125– 7.25
64-66, 390 e.p. gasoline	5.625– 5.75	5.375– 5.50	5.125– 5.25
68-70, 350-360 e.p. gasoline	5.875– 6.00	5.625– 5.75	5.375– 5.50
Other districts:			
52-54 naphtha	5.375– 5.50	5.125– 5.25	4.875– 5.00
54-56 naphtha	5.50 – 5.625	5.25 – 5.375	5.00 – 5.125
Motor gasoline:			
U. S. Motor (58-62°)	5.625– 5.75	5.375– 5.50	5.00 – 5.125
Minimum 60 octane	6.875– 7.125	6.875– 7.00	6.625– 6.875
Minimum 65 octane	7.00 – 7.25	7.00 – 7.125	6.75 – 7.00
64-66, 390 e.p. gasoline	5.625– 5.75	5.375– 5.50	5.125– 5.25
68-70, 350-360 e.p. gasoline	5.875– 6.00	5.625– 5.75	5.375– 5.50

*Nominal.

CALIFORNIA (3c tax to be added to prices if used in state)

54-58 U. S. Motor, 437 e.p. for in-state shipment	8.00 – 9.25	8.00 – 9.25	8.00 – 9.25
54-58 U. S. Motor, 437 e.p. for outside state shipment	8.25 – 9.25	8.25 – 9.25	8.25 – 9.25
58-61, 375-400 e.p. gasoline, 65 octane and above	8.50 – 9.75	8.50 – 9.75	8.50 – 9.75

†NORTH TEXAS (Prices represent majority of quotations or sales, F.o.b. Wichita Falls district for shipment to Texas and New Mexico destinations; Group 3 prices quoted on northern shipments).

U. S. Motor gasoline, by octane numbers:

62 octane and below	5.125– 5.375	5.125– 5.375	5.00 – 5.25
63-67 octane	5.50 – 5.625	5.50 – 5.625	5.375– 5.50
68-70 octane (regular)	6.00 – 6.375	6.00 – 6.375	5.875– 6.25
60-62, 400 e.p. gasoline	*5.125– 5.375	*5.125– 5.375	*5.00 – 5.25

*Nominal.

KANSAS (F.o.b. refinery, Kansas destination)

U. S. Motor gasoline, by octane numbers:

62 octane and below	5.375– 5.625	5.25 – 5.625	5.25 – 5.625
68-70 octane (regular)	6.375– 6.625	6.25 – 6.625	6.25 – 6.625

†WEST TEXAS and NEW MEXICO (Prices represent majority of quotations or sales, F.o.b. W. Texas and N. Mexico refineries for unrestricted shipment unless otherwise noted.)

U. S. Motor gasoline, by octane numbers:

62 octane and below	5.125	5.125	5.00 – 5.125
63-67 octane	5.50	5.50	5.375– 5.50
68-70 octane (regular)	6.125	6.125	6.00 – 6.125

†EAST TEXAS (Prices represent majority of quotations or sales, F.o.b. East Texas refinery for unrestricted shipment unless otherwise noted).

60-62, 400 e.p. gasoline	*5.25 – 5.375	*5.25 – 5.375	*5.25

*Nominal.

NORTH LOUISIANA (Prices represent majority of quotations or sales, f.o.b. Louisiana refineries, for shipment within Louisiana and into Arkansas).

U. S. Motor gasoline:

62 octane and below	5.50 – 5.625	5.50	5.50
63-67 octane	5.75 – 6.00	5.75	5.75
68-70 octane (regular)	6.50	6.25	6.25

†Refiners report they generally receive from 0.25c to 0.5c per gallon more for gasoline and kerosine for local or differential territory shipment.

ARKANSAS (Prices represent majority of quotations or sales, f.o.b. Arkansas refineries, for shipment within Arkansas and into Louisiana).

U. S. Motor Gasoline:

	May 3	April 26	April 19
62 octane and below	5.50	5.50	5.50
63-67 octane	6.00	6.00	6.00

OHIO (Quotations of S. O. Ohio. Delivered any point in Ohio).

U. S. Motor gasoline	8.875	8.75	8.75
Above 65 octane no.	9.125	9.00	9.00

Natural Gasoline

(Prices shown f.o.b. Group 3 and Breckenridge represent majority of quotations or sales to blenders on freight basis shown below. Shipments, however, may originate in other Mid-Continent manufacturing districts, such as Panhandle Texas, Southwest Texas or Kansas.)

F.O.B. GROUP 3			
Grade 26-70	3.125– 3.25	3.125– 3.25	3.125
F.O.B. BRECKENRIDGE			
Grade 26-70	3.25	3.25	3.125
CALIFORNIA (F.o.b. plants in Los Angeles basin)			
75-85, 375-390 e.p. for blending	7.25 – 7.75	7.25 – 7.75	7.25 – 7.75

Kerosine

WESTERN PENNA. (Prices represent majority of quotations or sales).

Bradford-Warren:			
45 w.w. kerosine	4.75 – 5.00	4.75 – 5.00	4.875– 5.00
46 w.w. kerosine	4.875– 5.125	4.875– 5.125	5.00 – 5.125
47 w.w. kerosine	5.00 – 5.25	5.00 – 5.25	5.125– 5.25
Other districts:			
45 w.w. kerosine	4.75 – 5.00	4.75 – 5.00	4.875– 5.00
46 w.w. kerosine	4.875– 5.125	4.875– 5.125	5.00 – 5.125
47 w.w. kerosine	5.00 – 5.25	5.00 – 5.25	5.125– 5.25

OKLAHOMA (Prices represent majority of quotations or sales, f.o.b. Oklahoma refineries).

41-43 w.w. kerosine	4.25 – 4.375	4.25 – 4.375	4.125– 4.375
42-44 w.w. kerosine	4.375– 4.50	4.375– 4.50	4.375– 4.50

KANSAS (F.o.b. refinery Kansas destination).

41-43 w.w. kerosine	4.375– 4.50	4.375– 4.50	4.375– 4.50
42-44 w.w. kerosine	4.50 – 4.75	4.50 – 4.75	4.50 – 4.75

†NORTH TEXAS (Prices represent majority of quotations or sales, f.o.b Wichita Falls district for shipment to Texas and New Mexico destinations; Group 3 prices quoted on northern shipments).

41-43 w.w. kerosine	4.375	4.375	4.375

†EAST TEXAS (Prices represent majority of quotations or sales, f.o.b. East Texas refinery for unrestricted shipment unless otherwise noted).

41-43 w.w. kerosine	*4.00 – 4.125	*4.00 – 4.125	*4.00 – 4.125

*Nominal.

NORTH LOUISIANA (Prices represent majority of quotations or sales, f.o.b Louisiana refineries, for shipment within Louisiana and into Arkansas).

41-43 w.w. kerosine	4.50	4.375	4.375

ARKANSAS (Prices represent majority of quotations or sales, f.o.b. Arkansas refineries, for shipment within Arkansas and into Louisiana).

41-43 w.w. kerosine	†4.75	†4.75	†4.75

†Only one refiner quoting.

CALIFORNIA (F.o.b. California refineries).

38-40 w.w. kerosine	5.00 – 6.00	5.00 – 6.00	5.00 – 6.00

Gas and Fuel Oils

WESTERN PENNA. (Prices represent majority of quotations or sales).

Bradford-Warren:			
36-40 fuel oil	4.375– 4.50	*4.25 – 4.50	*4.25 – 4.50
Other districts: (Excluding Pittsburgh District Prices).			
36-40 fuel oil	4.125– 4.25	4.125– 4.25	4.125– 4.25

*Nominal.

OKLAHOMA (Prices represent majority of quotations or sales, f.o.b. Oklahoma refineries).

No. 1 white fuel oil	3.875– 4.00	3.875– 4.00	3.875– 4.00
No. 1 straw fuel oil	3.75 – 3.875	3.75 – 3.875	3.75 – 3.875
No. 2 straw fuel oil	3.50 – 3.625	3.50 – 3.625	3.50 – 3.625
No. 2 dark fuel oil	3.375– 3.625	3.375– 3.625	3.375– 3.625
U. G. I. gas oil	2.75 – 3.25	*3.25	*3.25

*Only one refiner quoting.

(Continued on next page)

REFINERY TANK CAR MARKETS

Prices in cents per gallon, tank car lots, except where otherwise noted. Inter-refinery and export prices not included. Federal, state or municipal taxes not included. Prices quoted apply on products made from legally produced crude.

Oklahoma (cont'd)

	May 3	April 26	April 19
Fuel Oils: (Prices per barrel of 42 U. S. gallons)			
28-30 zero	3.375– 3.50	3.375– 3.50	3.375– 3.50
28-30	†$1.25	†$1.25	†$1.25
24-26	$0.925	$0.925	$0.925
18-22	*$0.825–$0.90	*$0.825–$0.90	*$0.825–$0.90
14-16	*$0.80 –$0.85	*$0.80 –$0.85	*$0.80 –$0.85

†Only one refiner quoting.
*Nominal.

KANSAS (F.o.b. refinery, Kansas destination)

No. 1 p.w. fuel oil	4.25	4.25	4.25
10-14 fuel oil (per bbl.)	$0.775–$0.85	$0.775–$0.85	$0.775–$0.85

NORTH TEXAS (Prices represent majority of quotations or sales, f.o.b. Wichita Falls district for shipment to Texas and New Mexico; Group 3 prices quoted on northern shipments).

No. 1 white, fuel oil	*4.00	*4.00	*4.00
U.G.I. gas oil	2.75	2.75	2.75
24-26 fuel oil (per bbl.)	$0.85 –$0.875	$0.85 –$0.875	$0.85 –$0.875
18-22 fuel oil (per bbl.)	$0.80 –$0.825	$0.80 –$0.825	$0.80 –$0.825

*Nominal.

NORTH LOUISIANA (Prices represent majority of quotations or sales f.o.b. Louisiana refineries, for shipment within Louisiana and into Arkansas).

No. 2 fuel oil	3.375– 3.50	3.375– 3.50	3.375– 3.50
20-24 fuel oil (per bbl.)	$1.10 –$1.15	$1.10 –$1.15	$1.10 –$1.15
16-20 fuel oil (per bbl.)	$0.95 –$1.00	$0.95 –$1.00	$0.95 –$1.00
10-14 fuel oil (per bbl.)	$0.80 –$0.85	$0.75 –$0.80	$0.75 –$0.80

ARKANSAS (Prices represent majority of quotations or sales, f.o.b. Arkansas refineries, for shipment within Arkansas and into Louisiana).

No. 2 fuel oil	*3.625	*3.625	*3.625
28-30 gas oil, zero	*3.50	*3.50	*3.50
10-14 fuel oil (per bbl.)	**	$0.70	$0.70

*Only one refiner quoting.
**No sales or quotations reported.

CALIFORNIA

San Joaquin Valley, per bbl.:			
Grade C fuel oil	$0.70 –$0.85	$0.70 –$0.85	$0.70 –$0.85
Diesel fuel oil	$1.12 –$1.68	$1.10 –$1.68	$1.10 –$1.68
Stove distillate	$1.47 –$2.10	$1.47 –$2.10	$1.47 –$2.10
Los Angeles, per bbl.:			
Grade C fuel oil	$0.70 –$0.85	$0.70 –$0.85	$0.75 –$0.85
Diesel fuel	$1.12 –$1.68	$1.10 –$1.68	$1.10 –$1.68
Stove distillate	$1.15 –$2.10	$1.05 –$2.10	$1.15 –$2.10
San Francisco, per bbl.:			
Grade C fuel oil	$1.22	$1.22	$1.22
Diesel fuel	$1.89	$1.89	$1.89
Stove distillate	$2.31	$2.31	$2.31

Neutral Oils

WESTERN PENNA. (Prices represent majority of quotations or sales).

Viscous Neutrals (*Viscosity at 70° F.*)

200 Vis. (180 at 100°) No. 3 color, 420-425 flash:			
0 pour test	30.00 –30.50	29.00 –29.50	28.00 –28.50
10 pour test	29.00 –29.50	28.00 –28.50	27.00 –27.50
15 pour test	28.50 –29.00	27.50 –28.00	26.50 –27.00
25 pour test	27.50 –28.00	26.50 –27.00	25.50 –26.00
180 Vis. (165 at 100) No. 3 color, 410-415 flash:			
25 pour test	26.00 –26.50	25.00 –25.50	24.00 –24.50
150 Vis. (143 at 100) No. 3 color, 400-405 flash:			
0 pour test	25.50 –26.00	24.50 –25.00	24.00 –24.50
10 pour test	24.50 –25.00	23.50 –24.00	23.00 –23.50
15 pour test	24.00 –24.50	23.00 –23.50	22.50 –23.00
25 pour test	23.00 –23.50	22.00 –22.50	21.50 –22.00

SOUTH TEXAS (Quotations of majority of sellers for tank car lots, f.o.b. South Texas refineries, for domestic shipment).

Vis. Color			
Pale Oils:	(*Viscosity at 100° F.; pour test* 0)		
100 No. 1½-2½	5.25 – 5.50	5.25 – 5.50	5.25 – 5.50
200 No. 2-3	7.25 – 7.50	7.25 – 7.50	7.25 – 7.50
300 No. 2-3	7.75 – 8.00	7.75 – 8.00	7.75 – 8.00
500 No. 2½-3½	8.75 – 9.00	8.75 – 9.00	8.75 – 9.00
750 No. 3-4	9.25 – 9.50	9.25 – 9.50	9.25 – 9.50
1200 No. 3-4	9.75 –10.00	9.75 –10.00	9.75 –10.00
2000 No. 4	10.00 –10.25	10.00 –10.25	10.00 –10.25
Red Oils:			
200 No. 5-6	7.25 – 7.50	7.25 – 7.50	7.25 – 7.50
300 No. 5-6	7.75 – 8.00	7.75 – 8.00	7.75 – 8.00
500 No. 5-6	8.75 – 9.00	8.75 – 9.00	8.75 – 9.00
750 No. 5-6	9.25 – 9.50	9.25 – 9.50	9.25 – 9.50
1200 No. 5-6	9.75 –10.00	9.75 –10.00	9.75 –10.00
2000 No. 5-6	10.00 –10.25	10.00 –10.25	10.00 –10.25

Note: South Texas red oil prices shown above cover oils with green cast; blue cast red oils are slightly lower in some cases.

MID-CONTINENT (Viscosity at 100° F.; F.o.b. Tulsa basis. Prices represent majority of quotations or sales).

(0 to 10 Pour Point)

Pale Oils			
Vis. Color			
60-85—No. 2	5.50	5.50	5.50
86-110—No. 2	6.00	6.00	6.00
150—No. 3	9.00	9.00	9.00
180—No. 3	10.00	10.00	10.00
200—No. 3	10.50	10.50	10.50
250—No. 3	11.50	11.50	11.50
280—No. 3	12.50	12.50	12.50
300—No. 3	13.00	13.00	13.00
Red Oils:			
180—No. 5	9.00	9.00	9.00
200—No. 5	9.50	9.50	9.50
250—No. 5	10.50	10.50	10.50
280—No. 5	11.50	11.50	11.50
300—No. 5	11.75	11.75	11.75

Note: Viscous oils, 15-25 pour point, generally are quoted 0.5c under 0-10 pour point oils. Non-viscous oils, 15-25 pour point generally are quoted 0.25c under 0-10 pour point oils. Viscous oils (150-300 vis.), No. 4 color, generally are quoted 0.5c above No. 5 color oils. Prices represent majority of quotations or sales.

CHICAGO (F.o.b. Chicago District refineries) (Vis. at 100° F.).

Pale Oils *0 to 10 pour point:			
Vis. Color			
60-85—No. 2	7.25	7.25	7.25
86-110—No. 2	7.75	7.75	7.75
150—No. 3	10.00	10.00	10.00
180—No. 3	11.00	11.00	11.00
200—No. 3	11.50	11.50	11.50
250—No. 3	12.50	12.50	12.50
Red Oils *0 to 10 Pour Point:			
180—No. 5	10.00	10.00	10.00
200—No. 5	10.50	10.50	10.50
250—No. 5	11.50	11.50	11.50
280—No. 5	12.50	12.50	12.50
300—No. 5	12.75	12.75	12.75

*Viscous oils, 15 to 30 pour point are quoted 0.5c lower. 60-85 and 86-110 No. 2 non-viscous oils, 15 to 30 pour point, are quoted 0.25c lower, beginning March 15, 1937. To obtain delivered prices in Chicago, add 0.25c per gal.

Note: Chicago neutral oil prices are being changed from 15 to 30 pour point to 0 to 10 pour point oils to afford an easier comparison with Mid-Continent prices.

Cylinder Stocks

MID-CONTINENT (F.o.b. Tulsa basis. Prices represent majority of quotations or sales).

Bright Stocks:			
190-200 Vis. at 210° D	23.00	23.00	23.00
150-160 Vis. at 210° D:			
0 to 10 pour point	20.00	20.00	20.00
10 to 25 pour point	19.50	19.50	19.50
25 to 40 pour point	19.00	19.00	19.00
150-160 Vis. at 210° E	19.00	19.00	19.00
120 Vis. at 210° D:			
0 to 10 pour point	19.00	19.00	19.00
10 to 25 pour point	18.50	18.50	18.50
25 to 40 pour point	18.00	18.00	18.00
60 Stm. Rfd. Dark Green	5.50 – 7.50	5.50 – 7.50	5.50 – 7.50
600 Stm. Rfd. Olive Green	7.00 – 9.50	7.00 – 9.50	7.00 – 9.50
631 Steam Refined	*17.50	*17.50	*17.50
Black Oil	3.50 – 4.00	3.50 – 4.00	3.50

*Only one refiner quoting.

CHICAGO (F.o.b. Chicago district refineries) (Viscosity at 210°)

Unfiltered Steam Refined:			
140	9.00	9.00	9.00
160	10.00	10.00	10.00
200	11.00	11.00	11.00
Bright stocks, 160 vis. at 210. No. 8 color:			
0 to 10 pour point	21.75	21.75	21.75
15 to 25 pour point	21.25	21.25	21.25
30 to 40 pour point	20.75	20.75	20.75
E filtered Cyl. Stock	15.50	15.50	15.50

To obtain prices delivered in Chicago, add 0.25c per gal.

WESTERN PENNA. (A.S.T.M. tests; prices represent majority of quotations or sales, to car unloaders).

600 stm. rfd. filterable	17.00 –17.50	17.00 –18.00	*17.50 –18.00
650 steam refined	19.00 –19.50	19.00 –19.50	*19.00 –19.50

*Nominal.

(*Continued on page* 31)

Native is the word for LINCO gasoline in KENTUCKY

LINCO GASOLINE

is refined from superior quality Kentucky Crude, accounting, in a large measure, for this extra-mileage gasoline.

LINCO-MARATHON MOTOR OILS

are refined from the cream of RANGER Crude and are unsurpassed for their lubricating qualities.

LINCO

Gasolines and Motor Oils are dispensed to an ever-increasing public in Kentucky through hundreds of company and jobber outlets.

THE OHIO OIL COMPANY, one of the world's largest producers of crude oil, is seeking aggressive and reliable jobbers to distribute the well-known LINCO products. Investigate our Exclusive Territory Franchise proposition NOW.

Write, Phone or Wire

MARATHON PRODUCTS BEST IN THE LONG RUN

LINCO

THE OHIO OIL COMPANY

GENERAL OFFICES - - - - FINDLAY, OHIO

ROBINSON, ILLINOIS TULSA, OKLAHOMA FT. WORTH, TEXAS

ever, continued to offer kerosine in the open spot market at 5.375 to 5.50 cents. They said that many contracts still prevailed with "tops" around these levels, and to move any kerosine in the open market they were forced to keep prices close to the contract levels.

Wax

Scale Dull

NEW YORK, May 3.—A rather dull market was reported for scale wax during the last week of May. Traders generally said that there was little apparent change from conditions in the previous week. Buyers were not showing much interest, while on the other hand, suppliers still were not shoving much scale on the market.

Prices for 124-126 white crude scale continued mostly at 2.65 to 2.8 cents a pound at New York. Most quotations and sales, however, were at 2.7 to 2.75 cents per pound.

Fully refined wax market remained quiet.

Pennsylvania

Gasoline Continues Upward

N. P. N. News Bureau
CLEVELAND, May 3

No slowing of the recent active pace of trading was noted in the western Pennsylvania refinery market the last week in April. Only one or two products experienced any material change in price but such changes as there were, were on the upside.

Further tightening of the market for U. S. Motor gasoline was reported quite generally and prices were up 0.25 cent over the week. Few refiners were anxious sellers of this grade, their position being the reverse of what it was a month ago. Spot demand was moderately active and inquiries for shipment over May were in large volume, sellers reported.

Kerosine movement was reported fairly brisk from the upper field and prices were steady. This product was slow in the lower field, and while there was no change in the general market level, some increase was noted in price shading.

Fuel oil was 0.125 cent higher in the upper field and several lower field sellers advanced their quotations the same amount. Demand from industrial accounts was steady and some increase was noted in the call for cracking stock.

Dark and bright cylinder stocks were freer although prices appeared to be well held in most quarters. The call for bright stock particularly was light, several refiners reported, and it was said to be backing up slightly at some plants. However, there appeared to be no disposition on the part of sellers to shade prices to stimulate demand. A number of refiners said they were still behind on orders booked in February and March.

Neutral oils remained exceptionally

(Continued on page 36)

Fuel Oil PRICES HIGHER ALONG EASTERN SEABOARD

N. P. N. News Bureau
CLEVELAND, May 3

CONTRA-SEASONAL advances in all grades of fuel oil along the eastern seaboard and brisk demand for heavy grades generally, featured fuel oil markets the last week in April.

Particularly pertinent was the Standard of New Jersey's forecast of the future trend when the company announced a general advance in its posted fuel oil prices early in the week.

Spring consumption of light fuels in domestic burners was sufficient, according to reports, to continue the delay in storage accumulation at refineries.

* * *

NEW YORK, May 3.—Advances in wholesale prices of light fuel oils were general along the Atlantic seaboard during last week. Amounts of advances varied but generally speaking they ranged from 0.25 to 0.375 cent a gallon at seaboard terminals.

Reasons for this reversal in the usual seasonal trend of fuel oil prices were given by Standard of New Jersey (first major company to advance) as follows: "This increase in prices reflects increased transportation costs and is an indication of the trend towards higher prices for the next consuming season. It is expected that freight rates will run contrary to the usual summer trend this year and remain at a high level.

"With some of the small refiners reported to have sold their output through the summer and with a heavy export demand continuing, stocks throughout the summer are expected to remain at a low level."

New tank car postings of the Standard were 5.875 cents a gallon for No. 1 fuel; 5 cents for Nos. 2, 3 and 4 oils generally at seaboard terminals from Charleston north. The company also advanced ships' bunker prices for diesel oil 25 cents a barrel at New York harbor, Boston, Baltimore, Philadelphia, Norfolk and at Gulf ports.

While some companies also raised their posted prices to the Jersey Standard's level, others, apparently more interested in the open spot market, were reported offering Nos. 1, 2, 3 and 4 oils at 0.25 cent lower. They pointed out that this kept them more in line with contract prices and therefore more competitive in the actual going market.

* * *

TULSA, May 3.—End-of-the-month inquiry for industrial fuels for May delivery has stimulated trading in the Mid-Continent and resulted in firmer prices.

Heavy oils were closely held by most refiners. One buyer contacted approximately 15 Mid-Continent refiners before he found one who could meet his requirements. His needs were not unusually large in volume either. One Oklahoma refiner turned down inquiries for 35,000 barrels of heavy fuel for May delivery. He was unable to quote, since his entire output for May was contracted, mostly to railroads. A Chicago broker was seeking 25 cars of oil for immediate shipment.

With the road oil season getting under way, some refiners were expected to have

(Continued on page 34)

FUEL OILS

Prices in Effect May 3, 1937

Following are tank wagon prices of various grades of heating oil at the points shown in various territories. Prices are in cents per gallon.

	No. 1	No. 2	No. 3	No. 4
S. O. NEW JERSEY				
Newark, N. J.	*	6.50	6.50	6.50
Atlantic City, N. J.	*	6.5	6.5	6
Baltimore, Md.	*	6.75	6.75	6.25
Washington, D. C.	*	7.00	7.00	7.00

Discounts: At Newark and Atlantic City, purchasers taking 50,000 gals. get discount of 0.5c per gal.

SOCONY-VACUUM OIL CO., INC.				
(S. O. New York Division)				
New York City	*	7.00	7.00	6.5
Albany, N. Y.	*	7.00	7.00	6.5
Rochester, N. Y.	*	7.00	7.00	7.00
Boston, Mass	*	6.75	6.75	6.75
Bangor, Me	*	6.5	6.5	6.5
Manchester, N. H.	*	6.75	6.75	6.75
Burlington, Vt.	*	7.50	7.50	....
New Haven, Conn.	*	6.25	6.25	6.25
Providence, R. I.	*	6.75	6.75	6.25

Discounts: At New York City, consumers taking 10,000 to 50,000 gals., get 0.25c per gal. discount when minimum amount has been reached; above 50,000 gals. 0.5c. Contract buyers are paying 0.25c less than above prices at New York City, Albany, New Haven and Providence due to top-price contracts.

*Prices for No. 1 fuel in S. O. New Jersey and Socony-Vacuum territories same as for kerosine, which see in tank wagon table for various cities; prices change with kerosine.

	No. 1	No. 2	No. 3	No. 4
ATLANTIC REFINING				
Philadelphia, Pa.	7.25	6.50	6.50	6.00
Allentown, Pa.	7.75	7.00	7.00	7.00
Wilmington, Del.	8.00	6.50	6.50	6.00
Springfield, Mass.	7.50	6.25	....	6.25
Worcester, Mass.	8.00	6.75	....	6.75
Hartford, Conn.	7.5	6.50	....	6.50
S. O. OHIO				
*Ohio Statewide	8.00	7.50	7.00	6.75

Note: *S. O. Ohio prices are for hose dumps, bucket dumps are 0.5c per gallon higher.*

Except Cleveland Division and City of Toledo. In Cleveland Division (Cuyahoga, Lake and Geauga counties), No. 1 price is same as statewide; Nos. 2, 3 and 4 are 0.5c higher; No. 5 is priced 0.25c lower than No. 4. In Toledo No. 2 is 0.5c lower than statewide, others same.

S. O. INDIANA

Stanolex Fuel and Furnace Oils

	No. 1 Fuel	Stanolex Furnace
Chicago	7.00	7.00
Indianapolis	....	*11.7
Detroit	7.1	7.1
Milwaukee	8	7.3
Minneapolis	7.5	7.5
Sioux City	7.1	7.1
St. Louis	7.5	6.8
Kansas City	6.5	6.5

*Includes state tax of 4c.

Note: *Small-lot deliveries of light fuel oils range up to 2c higher than above quotations.*

REFINERY TANK CAR MARKETS

Prices in cents per gallon, tank car lots, except where otherwise noted. Inter-refinery and export prices not included. Federal, state or municipal taxes not included. Prices quoted apply on products made from legally produced crude.

Cylinder Stocks (cont'd)

Western Pennsylvania (cont'd)

	May 3	April 26	April 19
600 flash	20.00 –20.50	20.00 –20.50	*20.00 –20.50
630 flash	*24.50 –25.00	*24.50 –25.00	*24.00 –25.00
600 Warren E	19.50 –20.00	19.50 –20.00	*19.50 –20.00

*Nominal

Bright stock, 145-155 vis. at 210°, 540-550 flash, No. 8 color:

10 pour test	28.00 –28.50	28.00 –28.50	28.00 –28.50
15 pour test	27.00 –27.50	27.00 –27.50	27.00 –27.50
20 pour test	26.00 –26.50	26.00 –26.50	26.00 –26.50
25 pour test	25.00 –25.50	25.00 –25.50	25.00 –25.50

Petrolatums

WESTERN PENNA. (Per pound, in barrels, carload lots, f.o.b. Penna. refineries. In tank cars, 0.5c per pound less. Quotations by majority of refiners making petrolatums).

Snow white	6.625– 6.75	6.625– 6.75	6.625– 6.75
Lily White	5.625– 5.75	5.625– 5.75	5.625– 5.75
Cream White	4.625– 4.75	4.625– 4.75	4.625– 4.75
Light Amber	2.75 – 2.875	2.75 – 2.875	2.75 – 2.875
Amber	2.50 – 2.625	2.50 – 2.625	2.50 – 2.625
Red	2.125– 2.375	2.125– 2.375	2.125– 2.375

Wax

	May 3	April 26	April 19
WESTERN PENNA. (Prices represent majority of quotations or sales, per pound, f.o.b. New York)			
122-124 wh. crude scale, A.m.p.	2.70 – 2.75	2.70 – 2.75	2.65 – 2.70
124-126 wh. crude scale, A.m.p.	2.75 – 2.80	2.75 – 2.80	2.70 – 2.75
OKLAHOMA (Prices represent majority of quotations or sales, per pound in barrels; in a few instances, per pound in burlap bags; f.o.b. Oklahoma refineries)			
124-126 wh. crude scale, A.m.p.	2.75 – 3.00	2.75 – 3.00	2.75 – 2.875
CHICAGO (Quotations of majority of sellers f.o.b. Chicago district refineries, in bags, carload lots. Melting points are E.M.P. (A.S.T.M.) methods; add 3° F. to convert into A.m.p.)			
Fully refined:			
122-124	4.65 – 4.75	4.65 – 4.75	4.65 – 4.75
125-127	4.90 – 5.00	4.90 – 5.00	4.90 – 5.00
127-129	5.05 – 5.15	5.05 – 5.15	5.05 – 5.15
130-132	*5.45 – 5.55	*5.45 – 5.55	*5.45 – 5.55
132-134	*5.70 – 5.80	*5.70 – 5.80	*5.70 – 5.80
135-137	*6.45 – 6.55	*6.45 – 6.55	*6.45 – 6.55

*Same prices quoted in bags or slabs loose.

MID-WESTERN TANK CAR MARKETS

Prices in cents per gallon, except where otherwise noted, in tank car lots, representing majority of quotations or sales made by Chicago sellers, from legally produced crude to jobbers on Group 3 (Oklahoma) freight basis, although shipments may originate in other South-western or Mid-western refining districts. Prices do not include state or federal taxes.

Gasoline

U. S. Motor gasoline:	May 3	April 26	April 19
62 octane and below	5.125– 5.25	5.125– 5.25	5.00 – 5.125
63-67 octane	5.375– 5.50	5.375– 5.50	5.25 – 5.375
68-70 octane (regular)	5.875– 6.125	5.875– 6.125	5.75 – 6.00
60-62, 400 e.p.	5.125– 5.25	5.125– 5.25	5.00 – 5.125
64-66, 375 e.p.	†5.25	†5.25	†5.00
68-70, 350-360 e.p.	†5.375	†5.375	5.00 – 5.625

†Only one seller quoting.

Kerosine

41-43 w.w.	4.125– 4.25	4.125– 4.25	4.125– 4.25
42-44 w.w.	4.25 – 4.375	4.25 – 4.375	4.25 – 4.375

Fuel and Gas Oils

Domestic:			
No. 1 prime white	3.875– 4.00	3.875– 4.00	3.875– 4.00
No. 1 straw	3.625– 3.875	3.625– 3.875	3.625– 3.875
No. 2 straw	3.375– 3.50	3.375– 3.50	3.375– 3.50
No. 2 dark	3.25 – 3.375	3.25 – 3.375	3.25 – 3.375
No. 3	3.125– 3.375	3.125– 3.375	3.125– 3.375
No. 4 (per bbl.)	*$1.05 –$1.15	$1.05 –$1.15	$1.05 –$1.15
No. 5 (per bbl.)	$0.85 –$0.90	$0.85 –$0.90	$0.85 –$0.90
Industrial:			
No. 4 (per bbl.)	$1.075–$1.12	$1.075–$1.12	$1.075–$1.12
No. 5 (per bbl.)	$0.80 –$0.90	$0.80 –$0.90	$0.80 –$0.90
No. 6 (per bbl.)	$0.75 –$0.80	$0.75 –$0.80	$0.75 –$0.80
U.G.I. gas oil	2.875– 3.125	2.875– 3.125	2.875– 3.125

*Nominal.

Naphtha and Solvent

(Tank car prices quoted f.o.b. Group 3 by majority of Chicago sellers)

Stoddard solvent	6.875	6.875	6.875
Cleaners' naphtha	7.375	7.375	7.375
V. M. & P. naphtha	7.375	7.375	7.375
Mineral spirits	6.375	6.375	6.375
Rubber solvent	7.375	7.375	7.375
Lacquer diluent	8.375	8.375	8.375

DAILY GASOLINE PRICES

Daily range of gasoline prices (cents per gallon) in tank cars, as reported in PLATT'S OILGRAM, (Week Ended April 30, 1937)

	Apr. 26	Apr. 27	Apr. 28	Apr. 29	Apr. 30
U. S. Motor, 62 octane and below:					
*North Texas	5.125– 5.375	5.125– 5.375	5.125– 5.375	5.125– 5.375	5.125– 5.375
West Texas	5.125	5.125	5.125	5.125	5.125
Oklahoma	5.125– 5.25	5.125– 5.25	5.125– 5.25	5.125– 5.25	5.125– 5.25
Mid-Western (Group 3 basis)	5.125– 5.25	5.125– 5.25	5.125– 5.25	5.125– 5.25	5.125– 5.25
U. S. Motor, 63-67 octane:					
*North Texas	5.50 – 5.625	5.50 – 5.625	5.50 – 5.625	5.50 – 5.625	5.50 – 5.625
West Texas	5.50	5.50	5.50	5.50	5.50
Oklahoma	5.50	5.50	5.50	5.50	5.50
Mid-Western (Group 3 basis)	5.375– 5.50	5.375– 5.50	5.375– 5.50	5.375– 5.50	5.375– 5.50
U. S. Motor, 68-70 octane (regular)					
*North Texas	6.00 – 6.375	6.00 – 6.375	6.00 – 6.375	6.00 – 6.375	6.00 – 6.375
West Texas	6.125	6.125	6.125	6.125	6.125
Oklahoma	6.125– 6.25	6.125– 6.25	6.125– 6.25	6.125– 6.25	6.125– 6.25
Mid-Western (Group 3 basis)	5.875– 6.125	5.875– 6.125	5.875– 6.125	5.875– 6.125	5.875– 6.125
Motor Gasoline, 60-64 octane					
New York harbor	‡7.00	‡7.00	‡7.00	‡7.00	‡7.00
Philadelphia district	†6.75 – 7.00	†6.75 – 7.00	†6.75 – 7.00	†6.75 – 7.00	†6.75 – 7.00
Baltimore district	†6.75 – 7.00	†6.75 – 7.00	†7.00	†7.00	†7.00
Motor Gasoline, 65 octane & above					
New York harbor	‡7.25	‡7.25	‡7.25	‡7.25	‡7.25
Philadelphia district	†7.00 – 7.25	†7.00 – 7.25	†7.00 – 7.25	†7.00 – 7.25	†7.00 – 7.25
Baltimore district	†7.00 – 7.25	†7.00 – 7.25	†7.25	†7.25	†7.25
U. S. Motor Gasoline, 58-62°					
Bradford-Warren (Western Penna.)	5.375– 5.50	5.50 – 5.625	5.50 – 5.625	5.625– 5.75	5.625– 5.75
Other districts (Western Penna.)	5.375– 5.50	5.50 – 5.625	5.50 – 5.625	5.625– 5.75	5.625– 5.75
Motor Gasoline, Minimum 60 octane					
Bradford-Warren (Western Penna.)	†6.875– 7.00	†6.875– 7.00	†6.875– 7.00	†6.875– 7.00	†6.875– 7.125
Other districts (Western Penna.)	6.875– 7.00	6.875– 7.00	6.875– 7.00	6.875– 7.00	†6.875– 7.125
Motor Gasoline, Minimum 65 octane					
Bradford-Warren (Western Penna.)	†7.125– 7.25	†7.125– 7.25	†7.125– 7.25	†7.125– 7.25	†7.125– 7.25
Other districts (Western Penna.)	7.00 – 7.125	7.00 – 7.125	7.00 – 7.125	7.00 – 7.125	7.00 – 7.125

*For shipment to Texas and New Mexico destinations; Group 3 prices are quoted on northern shipments.
†Nominal.
‡Nominal. Some suppliers quote 0.25c less for New Jersey shipment.

TANK WAGON, SERVICE STATION MARKETS

Tax column includes 1c federal tax, state gasoline tax, also city and county taxes as indicated in footnotes, and inspection fees, as shown in general footnote. These prices in effect May 3, 1937, as posted by principal marketing companies at their headquarters offices, but subject to later corrections

S. O. New Jersey

ESSOLENE

	Consumer Tank Car	Dealer T.W.	Taxes	Posted S.S.	Kerosine T.W.
Atlantic City, N. J.	7.5	9	4	*	8
Newark, N. J.	7	8.5	4	*	8
Annapolis, Md.	8.6	10.1	5	*	10
Baltimore, Md.	8	9.5	5	*	8.5
Cumberland, Md.	9.4	11.9	5	*	10
Washington, D. C.	8	9.5	3	16	9
Danville, Va.	9.2	11.7	6	*	12.9
Norfolk, Va.	8	10.5	6	*	11.5
Petersburg, Va.	8.3	10.8	6	*	11.7
Richmond, Va.	8.3	10.8	6	*	11.7
Roanoke, Va.	9.5	12	6	*	12.9
Charleston, W. Va.	8.8	11.3	6	*	12.6
Parkersburg, W. Va.	8.1	10.6	6	*	11.2
Wheeling, W. Va.	9	10.5	6	*	12.2
Charlotte, N. C.	9.4	11.9	7	*	12.6
Hickory, N. C.	9.9	12.4	7	*	13
Mt. Airy, N. C.	9.7	12.2	7	*	12.8
Raleigh, N. C.	9	11.5	7	*	12.1
Salisbury, N. C.	9.5	12	7	*	12.7
Charleston, S. C.	8	10.5	7	*	11.1
Columbia, S. C.	9	11.5	7	*	12.1
Spartanburg, S. C.	9.7	12.2	7	*	12.9

*S. O. New Jersey transferred stations to dealers; no prices available.

Price basis to undivided dealers: Dealer t.w. price less 0.5c per gal.

Price basis to commercial consumers: To contract accounts, purchasing at least one full compartment at a time by hose connection: Effective March 12, 1937, in New Jersey, and March 8 in Maryland, District of Columbia, and in Arlington and Fairfax Counties in Virginia, on yearly purchases: from 2,500 to 100,000 gals., consumer t.w. price at time and place of delivery; 100,000 gals. per year, consumer tank car price, plus 0.5c per gal. Generally consumer t.w. price in foregoing states is equivalent of dealer t.w. price, less 0.5c per gal.

Effective Jan. 25, 1937, in North and South Carolina, and effective Feb. 27, 1937 in Virginia except Arlington and Fairfax Counties, deliveries of 50 gals. or more at one time by t.w. will be billed at a price equal to 2c per gal. over the posted consumer t.c. price in effect at time and place of delivery. Deliveries of less than 50 gals. at one time will be billed at a price equal to 6c per gal. over the posted consumer t.c. price.

Effective March 22, 1937, in West Virginia, same price policy as shown in above paragraph, except minimum delivery is 100 gals., instead of 50 gals., in t.w. or steel bbls.

Kerosine Discount: 1c off t.w. price for 25 gals. or more, under contract thru territory (Baltimore City contract not necessary) except no discount in state of New Jersey.

Socony-Vacuum Oil Co., Inc.

(S. O. New York Division)

SOCONY MOBILGAS

	Consumer Tank Car	"Split" Dealer T.W.	Taxes	Total "Split" Dealer T.W.	Kerosine T.W.
Metropolitan N. Y. City: Boroughs of Manhattan, Bronx and Brooklyn (Kings and Queens)	8	9.5	*4	13.5	7.75
Borough of Richmond (Staten Is.)	8	9.75	*4	13.75	7.75
Albany, N. Y.	8.5	10	4	14	8.25
Binghamton, N. Y.	9.25	10.8	4	14.8	8.75
Buffalo, N. Y.	8.67	10.3	4	14.3	8
Jamestown, N. Y.	8.28	10.8	4	14.8	8.25
Plattsburg, N. Y.	8.9	10.9	4	14.9	9
Rochester, N. Y.	8.74	10.3	4	14.3	8.25
Syracuse, N. Y.	8.7	10.3	4	14.3	9
Danbury, Conn.	8.8	10.3	4	14.3	8.25
Hartford, Conn.	9.1	10.6	4	14.6	7
New Haven, Conn.	8.5	10	4	14	7
Bangor, Me.	9.1	11.3	5	16.3	7.5
Portland, Me.	8.5	10.8	5	15.8	8.5
Boston, Mass.	8.5	10	4	14	7.5
Concord, N. H.	9.2	11.8	5	16.8	9.25
Lancaster, N. H.	10.1	12.8	5	17.8	10.25
Manchester, N. H.	9	11.3	5	16.3	8.5
Providence, R. I.	8.5	10	3	13	7.75
Burlington, Vt.	8.9	10.9	5	15.9	8.75
Rutland, Vt.	9.2	11.2	5	16.2	8

*Plus 2% city sales tax computed at time of each sale.

Note: Socony-Vacuum has transferred all service stations to dealers; no prices available.

Price basis to undivided dealers: 0.5c less than "split" dealer t.w.

Price basis to commercial consumers: Effective about Nov. 15, 1936 in New York and New England, for tank wagon delivery: monthly purchases of 25,000 gals. or over, pay consumer tank car price at point of delivery, plus 0.5c gal; monthly purchases of 5,000 to 25,000 gals., pay undivided dealer tank wagon price at point of delivery; monthly purchases of less than 5,000 gals., pay divided dealer tank wagon price at point of delivery. Private consumers pay undivided dealer tank wagon price at point of delivery, plus 2c gal.

Atlantic Refining

ATLANTIC WHITE FLASH GASOLINE

	Commercial Tank Car	All Tax	Total Dealer T.W.	S.S.	Kerosine T.W.
Philadelphia, Pa.	7.5	5	14	17.5	10.5
Pittsburgh	8.5	5	15.5	20	11
Allentown	8.25	5	14.5	**	11
Erie	8	5	14.5	**	10
Scranton	8.25	5	14.5	**	11
Altoona	8.5	5	15.5	**	11
Harrisburg	8.25	5	14.5	**	11
Williamsport	8.5	5	15.5	**	11
Dover, Del.	...	5	14.5	**	11
Wilmington	...	5	13.5	**	11
Boston, Mass.	...	4	14	**	7.75
Springfield, Mass.	...	4	14.8	**	7.75
Worcester, Mass.	...	4	14.8	**	8
Fall River, Mass.	...	4	14	**	7.75
Hartford, Conn.	...	4	14.6	**	7
New Haven, Conn.	...	4	14	**	7
Providence, R. I.	...	3	13	**	7.75
Atlantic City, N. J.	...	4	13	**	8
Camden, N. J.	...	4	13	**	8
Trenton, N. J.	...	4	13	**	8
Annapolis, Md.	...	5	15.1	**	9.5
Baltimore, Md.	...	5	14.5	**	8.5
Hagerstown, Md.	...	5	15.5	**	10
Richmond, Va.	...	6	16.8	**	11.7
Wilmington, N. C.	...	7	17.6	**	11.3
Brunswick, Ga.	...	7	17.5	**	13
Jacksonville, Fla.	...	8	17.5	**	11

*Georgia has kerosine tax of 1c per gal., not included in above price.

**Atlantic Refining transferred stations to dealers; no prices available.

Price basis to undivided dealers: Dealer t.w. less 0.5c per gal.

Price basis to commercial consumers: in Penna. and Delaware, effective Mar. 11, 1937, on yearly gasoline purchases to contract accounts taking full compartment hose deliveries, using 100,000 gals. or more per year, tank car price plus 0.5c per gal.; consumers taking less than 100,000 gals., undivided dealer price. Consumers under contract and not under contract, taking less than full compartment delivery and consumers not under contract taking full compartment delivery, get divided dealer price. Consumers taking less than 25 gals., t.w. delivery, get 4c above undivided dealer price.

Discount on kerosine: Effective Oct. 29, 1936, in Pennsylvania and Delaware, 2c per gal. off t.w. price on t.w. deliveries of 25 gals. or more at one time.

S. O. Ohio

SOHIO X-70 GASOLINE

	All Tax	**Consumer T.W.	†Divided Dlr.	Kerosine T.W.
Ohio State-Wide	5	17.5	16	16.5 *13.5
Counties where prices are below statewide:				
Columbiana	5	17	15.5	16 ....
Defiance, Franklin, Knox and Pickaway:	5	16.5	15	15.5 ....
Paulding	5	16	14.5	15 ....
RENOWN GASOLINE (Third Grade)				
Ohio State-Wide	5	17	15.5	16 ....
Counties where prices are below statewide:				
Columbiana	5	16.5	15	15.5 ....
Defiance, Franklin, Knox, and Pickaway	5	16	14.5	15 ....
Paulding	5	15.5	14	14.5 ....
Counties where prices are above statewide:				
Butler, Clermont, Darke, Greene, Hamilton, Hocking, Miami, Montgomery, Preble, Summit, and Warren	5	17.5	16	16.5 ....

KEROSINE PRICES

(Off Statewide Level)

Kerosine prices are off statewide level in the following counties:

Gallia and Washington *13

Allen, Ashtabula, Auglaize, Champaign, Columbiana, Darke, Geauga, Hancock, Hardin, Logan, Mahoning, Mercer, Portage, Preble, Putnam, Shelby, Summit, Trumbull, Union, Van Wert and Wyandot: *12.5

Paulding *12

Fayette, Greene, Licking, Madison and Pickaway ..... * 9.5

*Kerosine prices include 1c state tax.

**Tank wagon price to commercial consumers, in t.w. deliveries of 25 gals. or more; less than 25-gal. deliveries get s.s. price. Price to undivided dealers is same as to commercial consumers.

†This price also to authorized agents, exclusive of 0.5c rental.

Sales tax: Ohio's 3% sales tax, effective Jan. 27, 1935, is added "where assessable, to regular posted prices", S. O. Ohio says.

On kerosine, prices to resellers and commercial consumers are posted generally at 3c per gal. below consumer t.w. price in any quantity, when such prices are on state-wide level.

S. O. Kentucky

CROWN GASOLINE

(Regular Grade)

	Consumer T.W.	All Tax	Total Consumer T.W.	Net Dlr.	Kerosine T.W.
Covington, Ky.	13	6	19	16	11
Lexington, Ky.	13.5	6	19.5	16.5	11
Louisville, Ky.	13.5	6	19.5	16.5	10.5
Paducah, Ky.	13.5	6	19.5	16.5	10
Jackson, Miss.	14	7	21	18	13
Vicksburg, Miss.	13.5	7	20.5	17.5	13
Birmingham, Ala.	13	*8	21	18	12
Mobile, Ala.	13	*9	22	19	11
Montgomery, Ala.	13	*9	22	19	14.5
Atlanta, Ga.	14	7	21	18	13
Augusta, Ga.	11.5	7	18.5	15.5	14
Macon, Ga.	14.5	7	21.5	18.5	14.5
Savannah, Ga.	13	7	20	17	13
Jacksonville, Fla.	12.5	8	20.5	17.5	11
Miami, Fla.	12.5	8	20.5	17.5	†10.5
Pensacola, Fla.	13	*9	22	19	12
Tampa, Fla.	12.5	*9	21.5	18.5	11

KYSO GASOLINE

(Third Grade)

Covington, Ky.	11.5	6	17.5	15	....
Lexington, Ky.	12	6	18	15.5	....
Louisville, Ky.	11.5	6	17.5	15	....
Paducah, Ky.	11	6	17	14.5	....
Jackson, Miss.	12.5	7	19.5	17	....
Vicksburg, Miss.	11.5	7	18.5	16	....
Birmingham, Ala.	11	*8	19	16.5	....
Mobile, Ala.	10.5	*9	19.5	17	....
Montgomery, Ala.	10.5	*9	19.5	17	....
Atlanta, Ga.	11	7	18	15.5	....
Augusta, Ga.	8.5	7	15.5	13	....
Macon, Ga.	10.5	7	17.5	15	....
Pensacola, Fla.	11	*9	20	17.5	....

Discounts to tank wagon consumers: Effective Jan. 4, 1937, thru territory, on Crown gasoline, 3c per gal. below consumer t.w. price; on Kyso, 2.5c below.

Discounts on kerosine: Prices in Kentucky are net, but in other states subject to 2c discount.

**Taxes*: in the tax column is included these city and county gasoline taxes at the following points: Mobile, 2c city; Birmingham, 1c city; Montgomery, 1c city and 1c county; Pensacola and Tampa, both 1c city. Georgia and Mississippi kerosine prices include 1c state tax. Montgomery kerosine prices includes 1c city tax.

†Effective Mar. 25, 1937, Miami kerosine price subject to 2c discount.

S. O. Indiana

	Red Crown Tax	Red Crown Total T.W.	Dealer Prices Red Crown	Stanolind	Kerosine T.W.
Chicago, Ill.	4	16	14	12	10.1
Decatur, Ill.	4	16	14.5	14.5	10.1
Joliet, Ill.	4	16	14.5	14.5	10.1
Peoria, Ill.	4	16	14.5	14.5	10.1
Quincy, Ill.	4	15.8	14.3	14.3	9.9
Indianapolis, Ind.	5	17.7	16.2	16.2	†13.6
Evansville, Ind.	5	17.5	16	16	†14.6
South Bend, Ind.	5	17.9	16.4	16.4	‡13.6
Detroit, Mich.	4	15.1	13.6	13.6	9.8
Grand Rapids, Mich.	4	16.5	15	15	10.9
Saginaw, Mich.	4	16.3	14.8	14.8	10.7

Above prices include these inspection fees on both gasoline and kerosine, per gallon, figured on basis of 50 gallons per barrel:

Alabama, 1/40c on gasoline, 1/2c on kerosine; Arkansas, 1/5c per gal. in a single barrel, 1/20c per gal. in bulk; Florida, 1/8c; Illinois, 3/100c; Indiana, 1/2c per gal. in a single barrel; 3/10c per gal. in lots of 2 to 10 bbls., 1/5c for 10 to 50 bbls., 2/25c for over 50 bbls.; Kansas, 1/50c, (3/50c can be charged to meet inspection department expenses); Louisiana, 1/32c; Minnesota, 1/25c; Missouri, 3/100c; Nebraska, 3/100c; Nevada, gasoline, 1/20c; North Carolina, 1/4c; North Dakota, 1/20c; Oklahoma, 2/25c per gal., in lots of more than 50 bbls., 1/5c in lots less than 50 bbls.; South Carolina, 1/8c; South Dakota, 1/10c; Tennessee, 2/5c; and Wisconsin, 1/25c.

Kerosine inspection fee only: Iowa, 2/25c; Michigan, 4/5c per gal. for first 2 bbls.; 3/5c for next 3; 2/5c for next 5; 3/10c for next 15, and 1/5c per gal. in lots over 25 bbls.

TANK WAGON, SERVICE STATION MARKETS

Tax column includes 1c federal tax, state gasoline tax, also city and county taxes as indicated in footnotes, and inspection fees, as shown in general footnote. These prices in effect May 3, 1937, as posted by principal marketing companies at their headquarters offices, but subject to later corrections

S. O. Indiana—Cont'd

	Red Crown Tax	Dealer Prices Red Crown T.W.	Stano-lind T.W.	Kero-sine T.W.
Green Bay, Wisc.	5	17.7	16.2	16.2	10.8
Milwaukee, Wis.	5	17.3	15.8	14.2	10.4
La Crosse, Wis.	5	17.4	15.9	15.9	10.5
Minneapolis-St. Paul	4	16.4	14.9	14.9	10.5
Duluth, Minn.	4	16.8	15.3	15.3	10.9
Mankato, Minn.	4	16.4	14.9	14.9	10.5
Des Moines, Ia.	4	15.8	14.3	14.3	9.9
Sioux City, Ia.	4	16	14.5	14.5	10.1
Davenport, Ia.	4	16	14.5	14.5	10.1
Mason City, Ia.	4	16.2	14.7	14.7	10.3
St. Louis, Mo.	†4	15.7	14.2	14.2	9.8
Kansas City, Mo.	†4	15.4	13.9	13.9	8.9
St. Joseph, Mo.	†4	15.4	11.4	11.4	6.9
Fargo, N. D.	4	17.4	15.9	15.9	11.5
Minot, N. D.	4	18.6	17.1	17.1	12.7
Huron, S. D.	*5	17.8	16.3	16.3	10.9
Wichita, Kans.	4	14.9	13.4	12.3	8.9

†St. Louis, Kansas City and St. Joseph prices include 1c city tax. ‡Includes 4c state tax.

*South Dakota gasoline and kerosine prices include 0.1c for sales tax.

Discount to commercial consumers: Effective Jan. 1, 1935, thru territory, except Michigan effective Feb. 1, on purchases per month, discount off t.w. prices; all gasolines, 25 to 1,000 gals., at t.w. price; 1,000 gals., or more, 1.5c off t.w. on Ethyl and Red Crown, and 0.5c on Stanolind. Minimum delivery is 25 gals.

Subnormal Stanolind Points

Normally Stanolind tank wagon prices are 1c under normal Red Crown t.w. prices. Among subnormal points on Stanolind t.w. are these: Des Moines, 14.1c; Mason City, 13.9c; Huron, 16c; and Wichita, 11.5c, all including state and federal taxes.

S. O. Nebraska

STANDARD RED CROWN GASOLINE

	All Tax	T.W. Total	Dealer Total	Kero-sine T.W.
Omaha, Neb.	6	18.4	16.9	10.4
McCook	6	18	17	10
Norfolk	6	18.8	17.3	10.8
North Platte	6	19.2	17.7	11.2
Scottsbluff	6	19.9	18.4	10.9

Discounts to commercial consumers: for tank wagon deliveries covered only by Standard Commercial Consumer Contract, effective January 1, 1935.

S. O. Louisiana

ESSOLENE

	Consumer Tank Car	Dealer T.W.	Taxes	Posted S.S.	Kero-sine T.W.
Little Rock, Ark.	8	10.5	7.5	**	11.5
Alexandria, La.	8	10.5	8	**	*12
Baton Rouge, La.	7.5	10	8	21.5	*12
New Orleans, La.	7.5	10	*10	23.5	*14
Lake Charles, La.	8.5	11	8	**	*12.5
Shreveport, La.	7	9.5	8	**	* 9.5
Lafayette, La.	8.5	11	8	**	*12.5
Bristol, Tenn.	10.5	11.75	8	**	14.5
Chattanooga, Tenn.	10	12.5	8	**	13.5
Knoxville, Tenn.	10.5	13	8	**	14
Memphis, Tenn.	8.5	11	8	**	12
Nashville, Tenn.	9.5	12	8	**	11

*New Orleans gasoline tax includes 7c state, 1c federal, and 2c parish tax. Louisiana kerosine prices include 1c state tax; in addition New Orleans has 1c parish tax.

**S. O. Louisiana transferred stations to dealers; no prices available.

Price basis to dealers: Undivided dealers get dealer price, less 0.5c.

Price basis to commercial consumers: Effective Dec. 21, 1936, thru territory; commercial consumers taking 50 gals. or more at one time by tank wagon, billed at price equivalent to 2c per gal. over posted consumer tank car price in effect at time and place of delivery; those taking less than 50 gals. at one time will be billed at a price equal to 6c per gal. over posted consumer t.c. price.

Humble Oil & Refining Co.

HUMBLE MOTOR FUEL

	*100% Dlr. T.W.	Taxes	Total *100% Dlr. T.W.	S.S.	Kero-sine T.W.
Dallas, Tex.	8.5	5	13.5	17	8
Ft. Worth, Tex.	9	5	14	18	8
Houston, Tex.	9.5	5	14.5	18.5	8
San Antonio, Tex.	9.5	5	14.5	18.5	8

U. S. MOTOR FUEL

(Third Grade)

Dallas, Tex.	7	5	12	14
Ft. Worth, Tex.	7.5	5	12.5	15
Houston, Tex.	8.5	5	13.5	16.5
San Antonio, Tex.	8.5	5	13.5	16.5

*Price is t.w. price to contract dealers and commercial consumers. Price to open dealers is 0.5c above t.w. prices shown above.

Price basis to dealers: to contract dealers consumer accounts off posted retail price: when posted retail price, including all taxes on Esso motor fuel is: 19.1c per gal. and above discount is 4c; 19c to 18.1c, 3.5c, and 18c and below, 3c. Humble motor fuel, 17.1c and above, 4c; 17 to 16.1c, 3.5c; and 16c and below, 3c; U. S. motor fuel, 15.1c and above, 3c; 15 to 14.1c, 2.5c; and 14c and below, 2c. To "open" dealer accounts, discounts in each case are 0.5c less on the same price basis.

Continental Oil

	Conoco Bronze Ex-Tax	All Tax	Dealer Prices Total Conoco Bronze	De-mand	Kero-sine T.W.
Denver, Colo.	12.5	5	17.5	16.5	11.5
Grand Junc., Colo.	15	5	20	19	15
Pueblo, Colo.	10	5	15	14	10.5
Casper, Wyo.	13	5	18	17	11.5
Cheyenne, Wyo.	13	5	18	17	13
Billings, Mont.	15.5	6	21.5	20.5	15.5
Butte, Mont.	13.5	6	19.5	17.5	15.5
Great Falls, Mont.	15.5	6	21.5	20.5	15.5
Helena, Mont.	15.5	6	21.5	20.5	15.5
Salt Lake City, Utah	14.5	5	19.5	16.5	16
Boise, Ida.	15.5	6	21.5	20.5	18
Twin Falls, Ida.	15.5	6	21.5	20.5	18
Albuquerque, N. M.	11	†6.5	17.5	16.5	12
Roswell, N. M.	12	†6.5	18.5	15	10
Santa Fe, N. M.	13	*7	20	16.5	12
Muskogee, Okla.	10.5	5	15.5	14.5	7
Oklahoma City, Okla.	8	5	13	12	8
Tulsa, Okla.	9	5	14	13	6
Ft. Smith, Ark.	10	5	15	14	10
Little Rock, Ark.	10	7.5	17.5	15.5	9.5
Texarkana, Ark.	10	5	15	13	9

†Includes city tax of 0.5c.

*Includes 1c city tax.

S. O. California

STANDARD GASOLINE

	T.W.	Taxes	Total T.W.	S.S.	Kero-sine T.W.
San Francisco, Cal.	13.5	4	17.5	18.5	11.5
Los Angeles, Cal.	13	4	17	18	9
Fresno, Cal.	14.5	4	18.5	19.5	12
Phoenix, Ariz.	15	6	21	22	†16
Reno, Nev.	15	5	20	21	13
Portland, Ore.	14	6	20	21	13.5
Seattle, Wash.	14	6	20	21	13.5
Spokane, Wash.	17	6	23	24	16.5
Tacoma, Wash.	14	6	20	21	13.5

FLIGHT GASOLINE

(Third Grade)

San Francisco, Cal.	12	4	16	17	....
Los Angeles, Cal.	11.5	4	15.5	16.5	....
Fresno, Cal.	13	4	17	18	....
Reno, Nev.	13.5	5	18.5	19.5	....
Phoenix, Ariz.	13.5	6	19.5	20.5	....
Portland, Ore.	12.5	6	18.5	19.5	....
Seattle, Wash.	12.5	6	18.5	19.5	....
Spokane, Wash.	15.5	6	21.5	22.5	....
Tacoma, Wash.	12.5	6	18.5	19.5	....

†Includes 5c state tax.

Discount to dealers: on gasoline, off t.w. price on Standard Ethyl and Standard Gasoline, to 100% dealers, 3c; to split dealers, 2c; on Flight gasoline, both 100% and split dealers, 2c.

On Stanavo Aviation Gasoline, to all classes of dealers, 3c off t.w.

To commercial consumers: off tank wagon price: on single deliveries of 40 gallons and over, Stanavo Aviation, Standard Ethyl and Standard Gasolines, 3c. Flight Gasoline, 2c per gallon. Tank wagon delivery, less than 40 gals., 1c per gal. above posted t.w. price.

On kerosine in tank car, transport truck and trailer delivery, 3c off t.w. price; plant deliveries to jobbers, 2.5c below t.w.

Canada

PRICES OF IMPERIAL OIL LTD.

Per Imperial Gallon, which is 1.2 U. S. Gallons

3-STAR IMPERIAL GASOLINE

	T.W.	Taxes	Total T.W.	S.S.	Kero-sine T.W.
Hamilton, Ont.	16	6	22	*	17
Toronto, Ont.	16	6	22	*	17
Brandon, Man.	22.8	7	29.8	32.8	22.3
Winnipeg, Man.	21.2	7	28.2	31.2	20.7
Regina, Sask.	22.5	7	29.5	*	22
Saskatoon, Sask.	25.3	7	32.3	*	24.8
Edmonton, Alta.	23.5	7	30.5	33.5	24.2
Calgary, Alta.	21	7	28	31	21.5
Vancouver, B. C.	15	7	22	26	23
Montreal, Que.	13	6	19	*	17.5
St. John, N. B.	16	8	24	28	18.5
Halifax, N. S.	16	8	24	28	18.5

*Imperial Oil Ltd. transferred stations to dealers; no prices available.

Discounts to Divided Dealers: off s.s. prices: Maritime Provinces, 4c; Ontario, 2½c; Prairie Provinces and British Columbia, 3c, except Vancouver and Victoria, 4c; Quebec, divided dealers pay posted t.w. price. *To Undivided Dealers*: additional 1c discount throughout territory, except in Maritime Provinces.

Aviation Gasoline

Following are tank car and/or tank wagon prices of aviation gasoline in principal marketing territories (Stanavo aviation in all territories except Continental Oil.) Tax column includes 1c federal tax, and state tax; also municipal taxes as indicated in footnotes.

In Effect May 3, 1937

S. O. NEW JERSEY

	Tank Car	T.W.
Bayonne, N. J.	9.5	12
Baltimore, Md.	10	12
Washington, D. C.		12.6
Richmond, Va.		14.7
Greensboro, N. C.		15.2
Raleigh, N. C.		16.6
Charleston, W. Va.		14.7

COLONIAL BEACON OIL CO.

	T.W.
Brooklyn, N. Y.	12.8
Buffalo, N. Y.	14.1
Boston, Mass.	15

S. O. PENNSYLVANIA

Philadelphia, Pa.	12.3
Pittsburgh, Pa.	12.6

S. O. LOUISIANA

New Orleans, La.	13.3
Shreveport, La.	13.6

Prices in above four territories do not include state or federal taxes. They are for 74 octane grade aviation gasoline. An 80 octane product generally brings 0.5c premium and an 87 octane product, 1.5c premium over the 74 octane grade.

Note: S.a. prices in above four territories are generally 6c over t.w. prices. Above t.w. prices are net, with no discounts allowed for quantity purchases. T.w. prices are generally tank car price, plus freight, plus 2.5c per gal.

S. O. OHIO

Thru Ohio

	Consumer T.W.	Tax	Total Consumer T.W.
Stanavo Ethyl Aviation:			
73 octane	15.5	5	20.5
80 octane	16.5	5	21.5
87 octane	17.5	5	22.5

Discounts: For delivery on contract to hangar operators and resellers: 2c below commercial consumer posted t.w. price, shown above.

S. O. INDIANA

Chicago, Ill.	15	4	19
Detroit, Mich.	16.2	4	20.2
Milwaukee, Wisc.	15.3	5	20.3
Minneapolis, Minn.	15.4	4	19.4
St. Louis, Mo.	14.7	*3	17.7
Kansas City, Mo.	14 4	*4	18.4
Fargo, N. D.	16.4	4	20.4
Huron, S. D.	15.8	5	20.8

*Includes 1c city tax.

**Includes 0.1c to cover sales tax.

HUMBLE OIL & REFINING CO.

	Tank Car
Baytown, Tex. (exclusive of taxes)	8.5

CONTINENTAL OIL CO.

	Dealer	Tax	Total Dealer
Denver, Colo.	15.5	5	20.5
Cheyenne, Wyo.	16	5	21
Helena, Mont.	18.5	6	24.5
Salt Lake City, Utah	17.5	5	22.5
Albuquerque, N. M.	14	*6.5	20.5

*Includes city tax of 0.5c.

S. O. CALIFORNIA

Phoenix, Ariz.	17	6	23
Los Angeles, Cal.	15	4	19
San Francisco, Cal.	15.5	4	19.5
Reno, Nev.	17	5	22
Portland, Ore.	16	6	22
Seattle, Wash.	16	6	22
Spokane, Wash.	19	6	25

Note: For discounts, etc., see note under Standard and Flight gasoline above.

TANK WAGON, SERVICE STATION MARKETS

Tax column includes 1c federal tax, state gasoline tax, also city and county taxes as indicated in footnotes, and inspection fees, as shown in general footnote. These prices in effect May 3, 1937, as posted by principal marketing companies at their headquarters offices, but subject to later corrections

Naphtha (In Tank Wagon)

In Effect May 3, 1937

S. O. NEW JERSEY
***Posted Tank Wagon Prices**

	Mineral Spirits	V.M.&P.
Newark, N. J.	*13.5	*15
Baltimore, Md.	**15.5	..
Washington, D. C.	***15	..

*2c off to contract buyers taking 200 gals. or more.
**2c off to contract buyers taking under 100 gals. and 3c off to contract buyers taking over 100 gals.
***2c off to contract buyers.

SOCONY-VACUUM OIL CO.

Buffalo, N. Y.	*15	15
New York City	11	12
Rochester, N. Y.	†16	....
Syracuse, N. Y.	**16	....
Boston, Mass.	13.5	14
Bridgeport, Conn.	13.5	14
Hartford, Conn.	13	13.5
Providence, R. I.	13.5	14.5

*2c off for 50 gals. or more purchase; 3.5c off for 4,000 gals. or more.
†4c off for purchase of 150 gals. or more.
**Less 2c for 150 gals. or more.

ATLANTIC REFINING CO.

Philadelphia, Pa.	11.5	12.5
Lancaster, Pa.	13	14
Pittsburgh, Pa.	12.5	14.5

Note: Prices for Mineral Spirits also apply to Stoddard Solvent; and prices for V.M.&P. Naphtha apply also to Light Cleaners Naphtha.

S. O. OHIO

	S.R. Solvent	V.M.&P. Naphtha
Thru Ohio	13.25	13.75

Note: V.M.&P. Naphtha prices also apply on Dry Cleaners naphtha and special Varnolene; Varnolene and Sohio Solvent 0.5c below these prices. Discounts to contract consumers, off t.w. price: 300 to 999 gals., 0.5c; 1,000 to 2,499 gals., 0.75c; 2,500 to 4,999 gals., 1c; 5,000 or more gals., 1.5c.

S. O. INDIANA
(Prices include state and federal taxes)

	Oleum Spirits	V.M.&P. Naphtha	Stanisol
Chicago, Ill.	15.8	16.1	15.5
Detroit, Mich.	19.2	18.2	19.3
Kansas City, Mo.	14.9	15.9	14.9
St. Louis, Mo.	15.2	16.2	14.6
Milwaukee, Wis.	19.8	20.8	19.8
Minneapolis, Minn.	18.9	19.9	17

Note: Prices for V. M. & P. apply also to Light Cleaners Naphtha. All prices, with exception of Missouri points, include state tax. Prices shown are base prices, before discounts.

Naphtha (In Tank Cars)

In Tank Cars (F. o. b. refinery or seaboard terminal except Ohio, delivered price.)

	V.M.&P. Naphtha	Solvent
Baltimore	10.50	10
New York Harbor	10.5	9.5
Philadelphia district	10	9.5
Boston	10.5	10
Providence	10.5	10
Ohio points, delivered	9.75	*9.25

*This is on S.R. solvent.
Note: In Ohio, prices on D.C. naphtha and special Varnolene are same as V.M.&P.; on Varnolene and Sohio Solvent, prices are 0.5c less than on V.M.&P.

Latest Changes

From April 27 to May 3 inclusive. Dates and amounts of changes shown. See table for full current prices. Changes are on gasoline unless kerosine is indicated.

S. O. Ohio—X-70 and Renown:

Up 0.5c, thru territory, April 29, including depressed areas.

Cut 0.5c, thru Ohio, including depressed areas, May 5. Prices published in this issue do not reflect this cut, due to prices shown in tables being those in effect Monday, May 3.

Naphtha

S. O. Ohio—Solvent & Naphtha:

T. C. up 0.5c, April 29.

Corrections

Notation of amount of change and dates not previously shown in table. Table in this issue is corrected to show these changes. Changes are on gasoline unless kerosine is indicated.

Socony-Vacuum—Kerosine:

Manchester, cut 0.25c, Mar. 9.

S. O. Indiana—Stanolind:

Chicago, dealer price cut 2c, April 25.

Fuel Oil

(Continued from page 30)

even less industrial fuel for sale than usual.

Light fuel oils were firmly pegged at generally unchanged prices last week. Buying of No. 2 fuel in East Texas for coastwise shipment was halted last week by lack of supplies. One buyer, who had bought 100 cars the third week in April, could find no supplies available last week.

* * *

CHICAGO, May 3.—Fuel oils generally were unchanged in the Mid-Western market the last week in April.

Industrial oils, however, came to life, and although added interest was apparent, no changes were recorded in prices. Offerings of these oils were in good balance with takings, and prices were steady. With comparative quiet reigning on the labor front, industrial activity was brisker, resulting, in the added interest in heavy oils, according to reports.

Domestic oils received fair response from buyers. Cold wet weather throughout much of the middle west resulted in relatively good consumption of heating oils, distributors reported.

Several jobbers reported they had put out feelers on oil for storage this summer for consumption over the 1937-38 heating oil season. Two reported that there was a hesitancy on the part of suppliers to quote at prices approximating buyers' ideas of costs.

ICC Grants Authority For Propane Cars

N. P. N. News Bureau

WASHINGTON, April 26.—Increasing use of liquefied petroleum gases by dwellers beyond reach of gas mains is seen in the application of General American Transportation Corp. for authority to construct 50 fusion-welded tank cars for transportation of propane. The authority was granted today by the Interstate Commerce Commission.

Applicant pointed out that it has inquiries for such fusion-welded cars from several companies, and the application was unanimously approved by the tank car committee of the Association of American Railroads.

250 Built

Several months ago ICC granted authority to Union Tank Car Co. and Phillips Petroleum Co. for construction of 250 such cars, built to withstand the pressure under which the gases must be kept to remain in the liquid state.

ICC regulations for petroleum tank car construction require forge-welding, and in granting the present application it pointed out the authority was granted "for experimental service."

However, the commission pointed out in the report accompanying its order that a number of fusion-welded cars constructed several years ago for such service have recently been minutely inspected and appeared to be in "first class condition" after 500,000 miles of laden travel.

Burner Shipments

WASHINGTON, May 4.—Oil burner shipments in March totaled 14,428, as compared with 9431 in March, 1936, the Census Bureau reported today. Total for the January-March quarter was 33,530 as against 23,987 in the same period in 1936, and 14,795 for 1935.

MILWAUKEE, May 4.—Headquarters of the Wisconsin Petroleum Association have been moved from 312 E. Wisconsin Ave., to the third floor of the Reckmeyer Bldg., 329 E. Wisconsin Ave., Milwaukee.

CHICAGO, May 4.—General offices of the Johnson Oil Refining Co. here have been moved from 175 W. Adams St., to larger quarters in the Civic Opera Bldg., 20 N. Wacker Drive.

SEABOARD MARKETS, EXPORT AND COASTWISE

Prices do not include Federal tax. Where $ mark is shown, prices are per barrel of 42 U. S. gallons

Eastern Domestic

(Prices in cents per gallon tank car lots, unless otherwise noted, f.o.b. refinery or seaboard terminal, representing majority of quotations or sales. Inter-refinery and export prices not included. Florida and S. Carolina inspection tax not included)

***MOTOR GASOLINE**

Prices May 3	†60-64 Octane	†65 Octane and Above
New York harbor	‡7.00	‡7.25
New York harbor, barges	6.75	7.00
Philadelphia district	6.75 – 7.00	7.00 – 7.25
Baltimore district	7.00	7.25
Norfolk district	7.00	7.50
Wilmington, N. C. district	7.25	7.50
Charleston, S. C. district	7.25	7.50
Savannah district	7.25	7.50
Jacksonville district	7.25	7.50
Portland district	7.25	7.50
Boston district	7.00 – 7.25	7.25 – 7.50
Providence district	7.00 – 7.25	7.25 – 7.50

*Due to lack of companies offering U. S. Motor gasoline, 59 octane and below in the open market, prices for this grade are discontinued. Quotations nominally are 0.25c below those for 60-64 octane grade.

†Nominal.

‡Some suppliers quote 0.25c less for New Jersey shipment.

WATER WHITE KEROSINE

Prices May 3			
New York harbor	5.375– 5.75	Charleston, S. C. dist.	5.50 – 5.75
N. Y. harbor, barges	5.25 – 5.625	Savannah district	5.50 – 5.75
Philadelphia district	5.50	Jacksonville district	5.50 – 5.75
Baltimore district	5.50 – 5.75	Portland district	6.00
Norfolk district	5.50 – 5.75	Boston district	5.50 – 5.75
Wilmington, N. C.	5.50 – 5.75	Providence district	5.50 – 5.75

***FUEL OILS**

Prices May 3	New York harbor	New York harbor, barges	Philadelphia district
No. 1	5.375– 5.75	5.25 – 5.625	5.50
Nos. 2-3	4.75 – 5.00	4.625– 4.875	4.75
No. 4	4.75 – 5.00	4.625– 4.875	4.25 – 4.75
No. 5 (per barrel)	†$1.40 –$1.60	.....	$1.47
No. 6 (per barrel)	†$1.20 – $1.50	.....	$1.20

	Baltimore district	Boston district	Providence district
No. 1	5.50 – 5.75	5.50 – 5.75	5.50 – 5.75
Nos. 2-3	4.625– 5.00	4.75 – 5.125	4.75 – 5.125
No. 4	4.375– 4.75	4.75 – 5.125	4.50 – 4.875
No. 5 (per barrel)	$1.40	$1.50	.....
No. 6 (per barrel)	$1.20	$1.20	.....

*Fuel oils meet specifications of U. S. Commercial Standards CS12-35.

†Represents posted prices. Spot business generally reported around $1.30 bbl. for No. 6 oil.

	Bunker Oil Grade C Per Barrel	Diesel Oil Ships' Bunkers Per Barrel	Gas Oil 28-34 Gravity Per gallon	Diesel Oil Shore Plants Per gallon
New York harbor	*$1.20	**$2.10	4.75 – 5.00	4.75 – 5.00
Philadelphia dist.	*$1.20	*$2.10	4.75	....
Baltimore district	*$1.20	**$2.10	4.75 – 5.00	....
Norfolk district	*$1.20	$2.10	4.75 – 5.00	....
Charleston district	$1.15	$2.10	....	....
Savannah district	*$1.15	$1.995	....	4.75
Jacksonville dist.	*$1.15	$1.995	....	4.75
Tampa district	*$1.15	$1.995	....	....
Portland district	$1.30	$2.25	....	....
Boston district	*$1.20	**$2.15	....	....
Providence district	$1.20	$2.15	....	....

*For barging add 5c per bbl.
**For barging add 6.5c per bbl.

Pacific Export

(Quotations are at seaboard, Los Angeles, in cargo lots, cents per gallon, except where otherwise noted.)

Prices—	May 3	April 26	April 19
53-55 U. S. Motor	5.00 – 5.50	5.00 – 5.50	5.00 – 5.50
400 e.p. blend 65 Octane and above	5.25 – 6.00	5.25 – 6.00	5.25 – 6.00
38-40 w.w. kerosine, 150 fire point	4.50 – 5.00	4.50 – 5.00	4.50 – 5.00
41-43 w.w. kerosine	4.75 – 5.00	4.75 – 5.00	4.75 – 5.00
44 water white kerosine	5.00	5.00	5.00
Prime white kerosine	4.25 – 4.50	4.25 – 4.50	4.25 – 4.50
In Cargo lots, per barrel			
Diesel fuel oil, above 23.9°.	$1.16 –$1.26	$1.16 –$1.26	$1.16 –$1.26
Diesel fuel oil, under 23.9°.	$1.06 –$1.10	$1.06 –$1.10	$1.06 –$1.10
30-34 gas oil	$1.25 –$1.35	$1.25 –$1.35	$1.25 –$1.35
Grade C fuel oil	$0.85 –$0.95	$0.85 –$0.95	$0.85 –$0.95

Pacific Export (cont'd)	May 3	April 26	April 19
In Ships' Bunkers, or deep tank lots, per barrel:			
Diesel fuel oil, above 23.9 gravity	$1.25 –$1.35	$1.25 –$1.35	$1.25 –$1.35
Diesel, under 23.9 gravity	$1.20 –$1.25	$1.20 –$1.25	$1.20 –$1.25
Grade C fuel oil	$0.90 –$0.95	$0.90 –$0.95	$0.90 –$0.95
Cased Goods:			
Gasoline, U. S. Motor	$1.35 –$1.50	$1.35 –$1.50	$1.35 –$1.50
Gasoline, 400 e.p. blend	$1.45 –$1.65	$1.45 –$1.65	$1.45 –$1.65
38-40 w.w. kerosine, 150 fire point	$1.20 –$1.35	$1.20 –$1.35	$1.20 –$1.35
Kerosine, prime white	$1.15 –$1.25	$1.15 –$1.25	$1.15 –$1.25

New York Export

(Prices in cents per gallon in barrels, F.a.s. New York)

CYLINDER OILS (Pennsylvania Products)

Bright stock:			
Light, 25 pour test	32.00	32.00	32.00
Dark, 25 pour test	31.50	31.50	31.50
Neutral oil:			
200 3 color, 25 pour test	33.50 –34.50	33.00 –33.50	32.00 –32.50
150 3 color, 25 pour test	29.00 –30.00	28.50 –29.00	28.00 –28.50
600 Warren E filtered	26.00 –26.50	26.00 –26.50	26.00 –26.50
600 stm. rfd., unfiltered	24.00	24.00 –24.50	24.00 –24.50
650 stm. rfd., unfiltered	25.50 –26.00	25.50 –26.00	25.50 –26.00
600 flash, steam refined	26.50 –27.00	26.50 –27.00	26.50 –27.00
630 flash, steam refined	31.50	31.00 –31.50	31.00 –31.50

Wax Domestic *and* Export

(Prices in cents per pound. Tests made by A. S. T. M. methods. Melting points shown below, however, are A. M. P., 3° higher than A. S. T. M. (E. M. P.) melting points. Export prices are f.a.s. carload lots. Domestic prices are f.o.b. refineries in New York and New Orleans districts, in bags, carload lots, with 0.2c discount allowed for shipment in bulk. Scale solid and fully refined slabs in bags.)

	New York		New Orleans	
Prices May 3	Domestic	Export	Domestic	Export
124-6 Y.C. scale	2.60 – 2.65	2.60 – 2.65	†2.65	†2.65
122-4 W.C. scale	2.70 – 2.75	2.70 – 2.75	†2.70 – 2.75	†2.70 – 2.75
124-6 W.C. scale	2.70 – 2.75	2.70 – 2.75	†2.70 – 2.75	†2.70 – 2.75
123-5 Fully refined	4.45	4.125	4.45	4.125
125-7 Fully refined	4.55	4.25	4.55	4.25
128-30 Fully refined	4.80	4.50	4.80	4.50
130-2 Fully refined	5.05	4.75	5.05	4.75
133-5 Fully refined	*5.35	5.25	*5.35	5.25
135-7 Fully refined	*5.60	5.50	....	....

*Shipment either in bags or in bulk.

†Nominal.

Gulf Coast

(Prices are f.o.b. ship at Gulf oil terminals representing opinions of majority of traders, except prices specified to the contrary. Prices cover bulk shipments of 20,000 barrels or more, unless otherwise noted.)

MOTOR GASOLINE

For Domestic Shipment

Prices—	May 3	April 26	April 19
59 octane and below	*6.00 – 6.125	5.875	5.75
60-64 octane number	*6.125– 6.25	6.00 – 6.125	6.00 – 6.125
65 octane and above	*6.375– 6.50	6.25 – 6.375	6.25 – 6.375

*Nominal.

FUEL OILS

No. 1 Fuel oil	4.50 – 4.75	4.50 – 4.75	4.75
No. 2 Fuel oil	4.00	4.00	4.00
No. 4 Fuel oil	3.875	3.875	3.875

KEROSINE

41-43 w.w.	4.50 – 4.75	4.50 – 4.75	4.75

GASOLINE

For Export Shipment

U. S. Motor gasoline	5.875	5.875	5.75
60-62, 400 e.p. gasoline	6.00	6.00	5.875
61-63, 390 e.p. gasoline	6.125	6.125	6.00
64-66, 375 e.p. gasoline	6.25	6.25	6.125

KEROSINE

44 water white	4.75 – 5.00	4.75 – 5.00	5.00
41-43 water white	4.50	4.50	4.75
41-43 prime white	4.50	4.50	4.625

(Continued on next page)

SEABOARD MARKETS, EXPORT AND COASTWISE

Prices do not include Federal tax. Where $ mark is shown, prices are per barrel of 42 U. S. gallons

(Continued from preceding page)

GAS AND BUNKER OILS

For Domestic and/or Export Shipment

Prices—	May 3	April 26	April 19
*26-30 translucent gas oil	3.875	3.875	3.75
*30 plus translucent gas oil	4.00	4.00	3.85
*30 plus transp. gas oil	4.00	4.00	3.875
Diesel Oil Ship's bunkers	$1.90	$1.65	$1.65
Grade C bunker oil, for ship's bunkers, per bbl.	†$1.00	†$1.00	†$1.00
Grade C bunker oil, per bbl. in cargoes	$0.90 -$0.95	$0.90 -$0.95	$0.90 -$0.95

*Less than ½ of 1% sulphur. †Lighterage 5c per bbl. additional.

MEXICAN CRUDE AND BUNKER OILS

(F.o.b. Steamer, Tampico)

Heavy Panuco crude, taxes to be paid, per bbl.	*$1.35	*$1.35	*$1.35
Grade C bunker oil, ship's bunkers, taxes paid, per bbl.	$1.00	$1.00	$1.00

*Nominal.

MID-CONTINENT LUBRICATING OILS

(Prices in cents per gallon in bbls. f.a.s. Gulf oil terminals. In drums and new barrels, 0.5c to 1c higher per gal. in some instances.)

190-200 vis. D 210 bright stock	28.50	28.50	28.50
150-160 vis. D 210 bright stock:			
0-10 pour point	25.50	25.50	25.50
10-25 pour point	25.00	25.00	25.00
25-40 pour point	24.50	24.50	24.50
150-160 vis. E 210 brt. stock	24.50	24.50	24.50
120 vis. D 210 bright stock	23.50	23.50	23.50
180 vis. No. 3 color neutral Oil:			
0-10 pour point	16.50	16.50	16.50
15-30 pour point	16.00	16.00	16.00
200 vis. No. 3 color neutral Oil:			
0-10 pour point	17.00	17.00	17.00
15-30 pour point	16.50	16.50	16.50
600 s.r. olive green	12.50	12.50	12.50
600 s.r. dark green	11.00	11.00	11.00
631 s.r.	23.00	23.00	23.00

SOUTH TEXAS LUBRICATING OILS

(Viscosity at 100° F., pour point 0. Tanker, f.o.b. Gulf oil terminals, for export shipment)

Prices—	May 3	April 26	April 19
Unfilterable Pale Oils:			
Vis. Color			
100 No. 3	5.25 - 5.50	5.25 - 5.50	5.25 - 5.50
200 No. 3	6.00 - 6.50	6.00 - 6.50	6.00 - 6.50
300 No. 3	6.50 - 7.00	6.50 - 7.00	6.50 - 7.00
500 No. 3½	7.625- 7.875	7.625- 7.875	7.625- 7.875
750 No. 4	8.75 - 9.00	8.75 - 9.00	8.75 - 9.00
1200 No. 4	9.50 - 9.75	9.50 - 9.75	9.50 - 9.75
2000 No. 4	10.00 -10.125	10.00 -10.125	10.00 -10.125
Red Oils:			
Vis. Color			
100 No. 5-6	5.00 - 5.25	5.00 - 5.25	5.00 - 5.25
200 No. 5-6	5.875- 6.50	5.875- 6.50	5.875- 6.50
300 No. 5-6	6.25 - 6.75	6.25 - 6.75	6.25 - 6.75
500 No. 5-6	7.50 - 7.625	7.50 - 7.625	7.50 - 7.625
750 No. 5-6	8.75 - 9.00	8.75 - 9.00	8.75 - 9.00
1200 No. 5-6	9.50	9.50	9.50
2000 No. 5-6	10.00	10.00	10.00

Note: Red oil prices shown above cover oils with green cast; prices for blue cast red oils are slightly lower in some cases.

Tanker Rates

(Approximate tanker freight rates to Continental ports, in shillings per ton o 2240 pounds. British sterling; to U. S. ports cents per barrel)

	Crude &/or Fuel		Refined Oil &/or Spirits	
Rates—May 3	Last Paid	Owners Ask	Last Paid	Owners Ask
Gulf-U.K./Cont.*	31/	32/6-34/	35/	36/-37/
Aruba-U.K./Cont.*	25/	26/-28/	30/	31/-32/
Gulf-N. Atlantic**				
(not E. of N. Y.):				
Heavy Crude & Fuel, (10 to 19.9 gravity)	†53c	†53c-55c	....	....
Light Crude, (30 gravity or lighter)	48c	†48c-50c	....	....
Gasoline	....	....	50c	†50c
Kerosine	....	....	51c	†51c
Light Fuel	....	....	52c	†52c

Note: Dirty boat quotations are enlarged to cover, "Fuel and Light Crude" quotations.

*Continental ports in range between Bordeaux and Hamburg, both inclusive.

**Venezuela loading same rate; Tampico 2c to 3c per bbl. additional.

†Nominal

Pennsylvania

(Continued from page 30)

tight. Most of the open market demand was from inter-refinery sources. Movement to jobbers was mostly against contracts. A resale agent reported receiving an inquiry for 50 cars of 200 No. 3 color 25 pour test oil, and in going through the field he was able to obtain only 10 cars.

School for Inspectors

WASHINGTON, May 3. — Ralph W. Smith, chief of the section on weights and measures laws and administration of the National Bureau of Standards, Department of Commerce, has left here to conduct a school for state weight and measure inspectors at Madison, Wis. He will also address the state weights and measures conference at Marion, Ind.

Charles C. Neale of the Wayne Pump Co., Fort Wayne, Ind., will assist Smith by conducting a demonstration on liquid measuring devices, explaining to the inspectors the construction and operation of modern type gasoline computers.

Crude Price Changes

HOUSTON, May 3.—On April 24 Shell Petroleum Corp. mailed notices that effective Feb. 20, it had posted Gibson field crude in the Terrebonne Parish, La., at $1.24 per barrel, applicable on quantities computed at 99 per cent tank tables.

Other Louisiana crudes posted by the Shell are Iowa, Black Bayou and White Castle districts.

CHICAGO, May 3.—E. J. Bullock, Standard Oil Co. of Indiana vice-president, is confined to his home by illness.

Pa. Refinery Lubricating Oil Inventory

(Issued as of April 29 by National Petroleum Assoc.)

	Gallons
1. **Raw Long Residuum** (Includes all raw long residuum below, and not salable, as 600 fire)	1,255,298
2. **600 Steam Refined** (Includes all steam refined stock commonly sold or used as 600 and as raw material for bright stock)	6,247,726
3. **Other Steam Refined** (Not included in 1 and 2, above)	3,144,507
4. **Finished Dewaxed Long Res.**	2,832,606
5. **Bright Stock** (Does not include any material reported in 4, above)	14,842,681
6. **Viscous Neutral,** below 180 vis. but not below 142 vis. @ 100	6,358,720
7. **Viscous Neutral,** 180 vis. @ 100 and above	3,791,605

General Motors Forms Diesel Division

DETROIT, May 3.—A new division of the General Motors Corp., to be known as the diesel engine division, has been announced by Alfred P. Sloan, Jr.

The new division will manufacture a line of Winton diesel engines, beginning with a 20-horsepower single unit, up to a 160-horsepower six cylinder unit. The manufacture of diesel engine fuel injectors, which has been carried on in the General Motors Research Laboratories for the past seven years, will be moved to a new plant as soon as possible.

Erection of the new plant will start at once, according to the announcement, and will be located on a 75-acre tract of land in Detroit.

An engineering laboratory will be erected first, where all development and test work will be done on diesel engines for the Winton Engine Manufacturing Corp. and the Electro-Motive Corp., as well as for the new division. The laboratory will also contain a diesel-electric power plant for supplying all power to the manufacturing plant.

W. T. Crowe has been appointed general manager of the new General Motors division.

CRUDE OIL MARKETS

Prices in $ per bbl. of 42 U. S. gals at the well. A. P. I. gravity. Prices are effective as of 7 a. m. of dates as given

EASTERN FIELDS

Posted by Joseph Seep Purchasing Agency

(Effective Feb. 24, 1937, except Corning Jan. 29, 1937)

Penna. Grade Oil in Southwest Penna. Pipe Lines.....$2.42
Penna. Grade Oil in Eureka Pipe Lines (West Virginia).....$2.37
Penna. Grade Oil in Buckeye Pipe Lines (Mackaburg, O.).....$2.22
Corning Oil in Buckeye Pipe Lines (Ohio)...$1.42

Posted by Other Companies

Tide Water Pipe Co., Ltd. Bradford-Allegany district (Penna. and N. Y.) (Effective Feb. 24, 1937).....$2.67
The Pennzoil Co.: (Effective Feb. 24, 1937) Penna. Grade Oil in National Transit Lines$2.67
Ashland Oil & Transportation Co.: Somerset Oil in Ashland Lines (Ky.): (Effective Jan. 28, 1937)
Big Sandy River.....$1.42
Kentucky River.....$1.50

*The Pennzoil Co. posts $2.67 in Cochran, Franklin, Hamilton and Doolittle, Pa. fields; prices in other lower districts range down to $2.62 per bbl. at well.

MICHIGAN

Posted by Pure Oil Co.

Midland, Midland County (Jan. 29, 1937)...$1.42

Posted by Simrall Pipe Line Corp.

(Effective Jan. 29, 1937)

West Branch, Arenac, and equal grades.....$1.26
Beaverton, Crystal, Greendale, Porter and equal grades.....$1.42

(Effective March 16, 1937)

Buckeye.....$1.395

CENTRAL STATES FIELDS

Posted by Ohio Oil Co.

(Effective Jan. 28, 1937)

Illinois, Princeton.....$1.35
Lima.....$1.25
Owensboro (Western Ky.).....$1.40

Posted by Stoll Oil Refining Co.

(Effective Feb. 1, 1937)

Stoll Pipe Line Oil (Ky.).....$1.40

CANADIAN FIELDS

Posted by Imperial Oil Limited

Western Ontario

(Effective Sept. 9, 1933)

Petrolia.....$2.10
Oil Springs.....$2.17

Alberta—Turner Valley

(Prices f.o.b. field tankage)

(Effective Dec. 16, 1936)

Clear Naphtha.....$2.60

Crude Oil & Discolored Naphtha

40-40.9°	$1.55	53-53.9	$1.94
41-41.9	1.58	54-54.9	1.97
42-42.9	1.61	55-55.9	2.00
43-43.9	1.64	56-56.9	2.03
44-44.9	1.67	57-57.9	2.06
45-45.9	1.70	58-58.9	2.09
46-46.9	1.73	59-59.9	2.12
47-47.9	1.76	60-60.9	2.15
48-48.9	1.79	61-61.9	2.18
49-49.9	1.82	62-62.9	2.21
50-50.9	1.85	63-63.9	2.24
51-51.9	1.88	64-64.9	2.27
52-52.9	1.91	65° & higher, for discolored naphtha only	2.36

Note: Clear naphtha: 22 color; 10 lbs. vapor pressure, Reid method; 90% recovery; end point, 410°. Discolored naphtha: same specifications as for clear naphtha except color.

MID-CONTINENT

Posted by Stanolind Crude Oil Purchasing Co., Jan. 28, 1937

	(In Oklahoma-Kansas)	(In North-North Central Texas)
Below 29	$1.06	$0.96
29-29.9	1.08	0.98
30-30.9	1.10	1.00
31-31.9	1.12	1.02
32-32.9	1.14	1.04
33-33.9	1.16	1.06
34-34.9	1.18	1.08
35-35.9	1.20	1.10
36-36.9	1.22	1.12
37-37.9	1.24	1.14
38-38.9	1.26	1.16
39-39.9	1.28	1.18
40 & above	1.30	1.20

Above Stanolind prices met as follows:

Jan. 28, Continental Oil Co. met in Okla., Kans., and North Texas. Sinclair-Prairie met in North Texas and North Central Texas, Jan. 28, Stanolind's North Texas schedule. Same date, The Texas Co. met in North-North Central Texas.

Note: Stanolind prices in Okla.-Kans. are for quantities computed by 97% tank tables. In Texas, 99% tank tables are used, volume corrected to 60° F., and deduction for full b.s. & w. content.

Posted by Carter Oil Co.

In Oklahoma

(Effective Jan. 28, 1937)

Below 25	$0.98	33-33.9	$1.16
25-25.9	1.00	34-34.9	1.18
26-26.9	1.02	35-35.9	1.20
27-27.9	1.04	36-36.9	1.22
28-28.9	1.06	37-37.9	1.24
29-29.9	1.08	38-38.9	1.26
30-30.9	1.10	39-39.9	1.28
31-31.9	1.12	40 and above...	1.30
32-32.9	1.14		

Above Carter schedule met Jan. 28 by the following companies: Sinclair-Prairie, Shell and Barnsdall in Oklahoma-Kansas; Skelly Oil in Kansas; Tide Water in Oklahoma; Pure Oil in Oklahoma-Kansas, beginning with below 24 at $0.98 and ending with 40 & above at $1.30.

Posted by Magnolia Petroleum Co.

(Effective Jan. 28, 1937)

In Oklahoma, same schedule as Carter Oil, which see above, beginning with below 25, at $0.98 and ending with 40 & above, at $1.30.

In Texas: North and North Central, including Burkburnett, Archer, Henrietta, Electra, Comanche and Olden, same gravity and price schedule as Stanolind in North Texas, which see under Stanolind, beginning with below 29 at $0.96 and ending with 40 and above, at $1.20.

Posted by Humble Oil & Refining Co.

TEXAS FIELDS

(*West Central Texas)

(Effective Jan. 28, 1937)

Below 29	$0.96	35-35.9	$1.10
29-29.9	0.98	36-36.9	1.12
30-30.9	1.00	37-37.9	1.14
31-31.9	1.02	38-38.9	1.16
32-32.9	1.04	39-39.9	1.18
33-33.9	1.06	40 and above...	1.20
34-34.9	1.08		

*Includes Brown, Callahan, Coleman, Comanche, Eastland, Fisher, Haskell, Jones, Shackelford, Stephens, Throckmorton and Young counties.

Shell Petroleum Corp., effective Jan. 28, posts Humble's above schedule on Fisher county crude, plus these five lower grades, beginning with below 25 gravity at $0.88; 25-25.9, $0.90; 26-26.9, $0.92; 27-27.9, $0.94, and 28-28.9, $0.96; rest of schedule same as Humble's in West Central Texas.

†Effective Dec. 1, 1934, Humble prices are based on 99% tank tables at 60F. Allowance or deduction of 1% is made for each 25° change in temperature above or below 60F.

East Central Texas

(Effective Jan. 28, 1937)

Below 29	$1.03	35-35.9	$1.17
29-29.9	1.05	36-36.9	1.19
30-30.9	1.07	37-37.9	1.21
31-31.9	1.09	38-38.9	1.23
32-32.9	1.11	39-39.9	1.25
33-33.9	1.13	40 and above...	1.27
34-34.9	1.15		

*Including Anderson, Cherokee, Limestone, Navarro counties.

Same date, Sinclair-Prairie met in Mexia Humble's above schedule.

PANHANDLE TEXAS

Posted by Humble Oil & Refining Co.

(Effective Jan. 28, 1937)

	Gray County	Carson-Hutchinson
Below 35	$0.96	$0.91
35-35.9	0.98	0.93
36-36.9	1.00	0.95
37-37.9	1.02	0.97
38-38.9	1.04	0.99
39-39.9	1.06	1.01
40 & above	1.08	1.03

Jan. 28, above prices met by Sinclair-Prairie and Magnolia in the entire area and by Continental in Carson-Hutchinson and by Texas Co. in Panhandle Sweet, same as Humble's Gray Co. and on Panhandle Sour, same as Carson-Hutchinson.

EAST TEXAS

(Effective Jan. 28, 1937)

Stanolind, Humble, Shell, Sinclair-Prairie, Texas Co., and Magnolia.....$1.27

Shell also posted on Jan. 28, in Livingston area, Polk County, Texas, $1.27.

NORTHEAST TEXAS

(Posted by Humble, Jan. 28, 1937)

Talco.....$0.73

(Posted by Magnolia, Jan. 28, 1937)

Cass County and Panola County, Tex: Same gravity and price schedule as S. O. Louisiana posts for Rodessa, La., which see under that company.

(Posted by The Texas Co., Jan. 28, 1937)

Cass County.....$1.25

WEST TEXAS AND NEW MEXICO

Posted by Humble Oil & Refining Co.

(Effective Jan. 28, 1937)

(Including Andrews, Crane, Crockett, Ector, Glasscock, Howard, Winkler and Upton Counties, Texas and Lea county, New Mexico).

Below 26	$0.78	33-33.9	$0.94
26-26.9	0.80	34-34.9	0.96
27-27.9	0.82	35-35.9	0.98
28-28.9	0.84	36-36.9	1.00
29-29.9	0.86	37-37.9	1.02
30-30.9	0.88	38-38.9	1.04
31-31.9	0.90	39-39.9	1.06
32-32.9	0.92	40 & above	1.08
Pecos, West Texas			$0.91

Jan. 28, Magnolia met Humble in Crane, Upton, Howard, Glasscock, Mitchell and Winker.

Shell Petroleum Corp., on Jan. 28, met Humble in Crane, Glasscock, Howard, Pecos (except Yates shallow pool), Winkler, and Upton counties, Tex., and in Lea County, N. Mex. On Jan. 28, Shell posted in Yates shallow pool in Pecos county, Tex., $0.81.

Jan. 28, Stanolind Oil & Gas Co. met Humble in Hendrick field, Winkler county.

Jan. 28, Texas Co. met Humble in Ward and Winkler counties, Tex., and Lea County, N. M.

April 20, 1937, Sinclair Prairie met Humble in Ward and Winkler, Tex. and Lea, N. M., counties, except that its gravity schedule ends with 36 and above, at $1.00.

Posted by Continental Oil Co.

(Effective Jan. 28, 1937)

Artesia, Jackson and Maljamar pools, N. M...$0.90

COLORADO

(Posted by Continental Oil Co., Effective Jan. 28, 1937)

Ft. Collins and Wellington

Below 29	$1.01	35-35.9	$1.15
29-29.9	1.03	36-36.9	1.17
30-30.9	1.05	37-37.9	1.19
31-31.9	1.07	38-38.9	1.21
32-32.9	1.09	39-39.9	1.23
33-33.9	1.11	40 & above	1.25
34-34.9	1.13		
Cannon City and Florence, Col.			$1.10

SOUTH AND SOUTHWEST TEXAS

Posted by Humble Oil & Refining Co.

(Effective Jan. 28, 1937)

Carroll, Clark, Darst Creek, Hilbig, Salt Flat and Zoboroski fields.....$1.09

Pettus	$1.37	Van Zandt	$1.10

(Effective Nov. 1, 1936)

Heyser heavy	$0.90	Placedo heavy	$0.90
Heyser light	1.15	Taft	0.95

Shell Pet. Corp. on Jan. 28, posted $1.09 in Salt Flat district, Tex.

Anahuac, Dickinson, Flour Bluff and Turtlebay

(Effective Jan. 28, 1937)

Below 31	$1.16	36-36.9	$1.28
31-31.9	1.18	37-37.9	1.30
32-32.9	1.20	38-38.9	1.32
33-33.9	1.22	39-39.9	1.34
34-34.9	1.24	40 and above...	1.36
35-35.9	1.26		

Jan. 28, Magnolia met Humble in Darst Creek; posted $1.00 in Luling; $1.12 in Lytton Springs; $1.27 for Cleveland, Liberty county, Tex.; $1.15 in Hardin, Liberty county, Tex.

Jan. 28, 1937, The Texas Co. met Humble in Darst Creek, and posted $1.00 for Duval county, Tex.

Posted by Humble

Conroe, Raccoon Bend, Tomball and Satsuma

(Deep sand crudes)

(Effective Jan. 28, 1937)

Below 29	$1.20	35-35.9	$1.34
29-29.9	1.22	36-36.9	1.36
30-30.9	1.24	37-37.9	1.38
31-31.9	1.26	38-38.9	1.40
32-32.9	1.28	39-39.9	1.42
33-33.9	1.30	40 & above	1.44
34-34.9	1.32		

Jan. 28, Magnolia met Humble in Tomball and Texas Co. met Humble in Conroe, beginning with 35-35.9 gravity.

Posted by Humble

Mirando, Heavy and Light and Sam Fordyce

(Effective Jan. 28, 1937)

Below 21	$0.90	31-31.9	$1.18
21-21.9	0.93	32-32.9	1.20
22-22.9	0.96	33-33.9	1.22
23-23.9	0.99	34-34.9	1.24
24-24.9	1.02	35-35.9	1.26
25-25.9	1.05	36-36.9	1.28
26-26.9	1.08	37-37.9	1.30
27-27.9	1.10	38-38.9	1.32
28-28.9	1.12	39-39.9	1.34
29-29.9	1.14	40 & above	1.36
30-30.9	1.16		

Jan. 28, Magnolia met Humble in Mirando.

(Continued on next page)

CRUDE OIL MARKETS

(Continued from preceding page)

NORTH LOUISIANA-ARKANSAS

Posted by Standard Oil Co. of Louisiana

(Effective Jan. 28, 1937)

(In Caddo, Homer, Haynesville, Sabine, De Soto, Sarepta, Carterville, El Dorado, Bunkie, and Miller county).

Below 25	$0.90	33-33.9	$1.08
25-25.9	0.92	34-34.9	1.10
26-26.9	0.94	35-35.9	1.12
27-27.9	0.96	36-36.9	1.14
28-28.9	0.98	37-37.9	1.16
29-29.9	1.00	38-38.9	1.18
30-30.9	1.02	39-39.9	1.20
31-31.9	1.04	40 and above	1.22
32-32.9	1.06		

Rodessa, La.

(Effective Jan. 28, 1937)

Below 25	$0.93	33-33.9	$1.11
25-25.9	0.95	34-34.9	1.13
26-26.9	0.97	35-35.9	1.15
27-27.9	0.99	36-36.9	1.17
28-28.9	1.01	37-37.9	1.19
29-29.9	1.03	38-38.9	1.21
30-30.9	1.05	39-39.9	1.23
31-31.9	1.07	40 and above	1.25
32-32.9	1.09		

Choctaw and Darrow

Jan. 28, 1937, initial posting; same schedule as Humble posts in Mirando, Tex., which see.

Smackover, Ark.	$0.90
Urania, La. (La. Oil Refg. Co., Jan. 10, '36)	0.97
Tepetate, La. (Continental Oil, Jan. 28, '37)	1.24

Jan. 28, 1937, Magnolia met S. O. La.'s No. La.-Ark. gravity and price schedule in Pine Island, Haynesville, Bull Bayou and Cotton Valley, La., and in Eldorado and Rainbow districts, Ark.; and met S. O. La.'s Rodessa prices; and in Lockport, Iowa, Cameron Meadow, La., posted Humble's gravity and price schedule on Mirando.

Jan. 28, The Texas Co. met S. O. La. in N. La., except that its gravity schedule begins with below 27 at $0.94. It posted $1.37 for Garden Island, La., $1.24 for LaFitte, La. and $0.90 for Smackover.

*GULF COASTAL FIELDS

Posted by Humble Oil & Refining Co. and The Texas Co.

(Effective Jan. 28, 1937)

	Humble	Texas
Below 18	$0.95	$0.90
18-18.9	for	0.92
19-19.9	below	0.94
20-20.9	21°	0.96
21-21.9	0.98	0.98
22-22.9	1.01	1.01
23-23.9	1.04	1.04
24-24.9	1.07	1.07
25-25.9	1.10	1.10
26-26.9	1.13	1.13
27-27.9	1.15	1.15
28-28.9	1.17	1.17
29-29.9	1.19	1.19
30-30.9	1.21	1.21
31-31.9	1.23	1.23
32-32.9	1.25	1.25
33-33.9	1.27	1.27
34-34.9	1.29	1.29
35-35.9	1.31	for
36-36.9	1.33	oil
37-37.9	1.35	34°
38-38.9	1.37	and
39-39.9	1.39	above.
40 and above	1.41	....

Effective Dec. 1, 1934, Humble prices are based on 99% tank tables at 60F. Allowance or deduction of 1% is made for each 25° change in temperature above or below 60F.

*Includes these fields: Barbers Hill, Goose Creek, Hull, Humble, Liberty, Moss Bluff, Mykawa, Orange, Pierce Junction, Plymouth, Rabbs Ridge, Raccoon Bend (shallow sand), Refugio light and heavy, Saxet, Sour Lake, Spindletop, Sugarland and West Columbia.

Jan. 28, Sinclair-Prairie met above Humble schedule in full.

ROCKY MOUNTAIN FIELDS

Posted by Stanolind Oil & Gas Co.

(Effective Jan. 28, 1937)

Salt Creek, Midway and Dutton Creek, Wyo., same schedule as Stanolind posts in Oklahoma, Kansas which see under Mid-Continent crude on previous page.

Greybull-Torchlight	$1.30
Iles, light, Col.	1.18
Iles, heavy	1.12
Hogback, N. M.	1.33
Big Muddy	1.23
Elk Basin, light	1.30
Grass Creek, light	1.30
Frannie light	0.82

(Effective Nov. 4, 1936)

Grass Creek, heavy	$0.62
Frannie heavy	0.62
Hamilton Dome, Wyo.	0.57

Pondera, Mont., (Postings discontinued July 1, 1936, but Stanolind pays price posted by Ohio Oil for Kevin-Sunburst, less 20c per bbl.)

Posted by Ohio Oil Co.

(Effective Jan. 28, 1937)

Elk Basin, Wyo.	$1.30
Grass Creek, light	1.30
Rock Creek	1.205
Lance Creek	0.97
Sunburst, Mont.	1.20

*Posted by *International Refg. Co.*

Cut Bank, Mont.

(Effective Jan. 28, 1937)

Below 35°	$1.34	38-38.9	$1.42
35-35.9	1.36	39-39.9	1.44
36-36.9	1.38	40 and above	1.46
37-37.9	1.40		

*Texas Co. subsidiary.

Posted by Continental Oil Co.

(Effective Jan. 28, 1937)

Cat Creek, Mont.	$1.40
Big Muddy, Wyo.	1.18
Lance Creek, Wyo.	0.97

CALIFORNIA, *Posted by Standard Oil of California*

All gravities above those quoted take highest price offered in the field. Prices effective Feb. 26, 1936, except Huntington Beach, Playa del Rey, Santa Fe Springs, Kern Front, Signal Hill (Long Beach) effective March 7, 1936, and Elk Hills, effective June 22, 1936

Gravity	Signal Hill (Long Beach)	Seal Beach	Alamitos Heights	Huntington Beach	Inglewood	Playa del Rey	Olinda Brea Canon	Athens Rosecrans	Dominguez	Torrance	Richfield	Whittier East Coyote (La Habra)	Montebello	West Coyote Hills	Santa Fe Springs	‡Newhall and others	Mountain View	Elk Hills	Buena Vista Hills **Midway-Sunset	Lakeview Area	Lost Hills	Coalinga	Wheeler Ridge
14-14.9	$0.80	0.79	0.74	0.78	0.79	0.80	0.76	....	....	0.80	0.76	0.76	0.77	0.78	....	0.70	....	0.70	0.70	0.65	0.70	0.70	....
15-15.9	.80	.79	.74	.78	.79	.80	.76	....	....	.80	.76	.76	.77	.78	....	.70	....	.70	.70	.65	.70	.70	....
16-16.9	.80	.79	.74	.78	.79	.80	.76	....	....	.80	.76	.76	.77	.78	....	.70	....	.70	.70	.65	.70	.70	....
17-17.9	.80	.79	.74	.78	.81	.80	.76	....	....	.80	.76	.76	.77	.78	....	.70	....	.70	.70	.65	.70	.70	....
18-18.9	.80	.79	.74	.78	.84	.80	.78	....	....	.82	.76	.76	.77	.78	....	.70	....	.70	.70	.65	.70	.70	....
19-19.9	.82	.79	.74	.82	.87	.84	.81	....	....	.85	.76	.78	.77	.78	....	.70	.70	.74	.74	.66	.74	.71	.70
20-20.9	.85	.79	.74	.85	.90	.88	.84	....	....	.88	.78	.82	.77	.80	....	....	.70	.78	.78	.68	.78	.72	.70
21-21.9	.88	.79	.74	.89	.93	.93	.88	....	....	.91	.80	.85	.77	.84	.78	....	.73	.82	.82	.71	.82	.74	.70
22-22.9	.92	.82	.74	.92	.96	.98	.92	....	....	.93	.84	.89	.79	.88	.78	....	.77	.87	.87	.74	.86	.78	.72
23-23.9	.95	.86	.77	.96	.99	1.02	.96	.84	.79	.96	.88	.93	.82	.92	.78	....	.80	.92	.92	.77	.90	.82	.76
24-24.9	.99	.91	.80	1.00	1.02	1.06	.99	.88	.81	.99	.91	.96	.85	.96	.82	....	.84	.97	.97	.80	.94	.86	.79
25-25.9	1.03	.95	.82	1.03	1.05	1.11	1.03	.93	.83	1.02	.95	....	.89	.99	.86	....	.88	1.01	1.01	.83	.98	.90	.83
26-26.9	1.06	1.00	.85	1.07	1.09	1.16	1.06	.98	.86	1.05	.98	....	.92	1.03	.90	....	.91	1.06	1.06	.86	1.02	....	....
27-27.9	1.10	1.05	.88	1.11	1.12	....	1.10	1.03	.88	....	1.02	....	.96	1.06	.95	....	.95	1.10	1.10	.88	1.06	....	....
28-28.9	1.14	1.10	.90	1.14	1.15	....	1.14	1.07	.90	....	1.06	....	.99	1.10	.99	....	.99	1.15	1.15	.91	1.10	....	....
29-29.9	1.17	1.15	.93	1.18	1.18		1.17	1.12	.93	....	1.09	....	1.03	1.14	1.03	....	1.02	1.20	1.20	.94	1.14	....	....
30-30.9	1.21	1.19	.95	1.22	1.21		1.21	1.17	.95	....	....	....	1.07	1.17	1.08	....	1.06	1.25	1.25	.97	1.18	....	....
31-31.9				....	1.24		1.24	1.22	.97	....	....	....	1.11	1.21	1.12	....	1.09	1.29	1.29	.99			
32-32.9	*Elwood Terrace			....	1.27		1.27	1.27	1.00	....	....	....	1.14	1.25	1.16	....	1.13	1.34	1.34	1.02	Kettleman Hills		
33-33.9	....	1.28	....	....	....		....	1.32	....	....	....	....	1.18	1.28	1.20	....	1.17	1.38	1.38	1.04	....	1.19	....
34-34.9	....	1.32	....	....	....		....	1.37	....	....	....	....	1.22	1.32	1.25	....	1.20	....	....	....	....	1.23	....
35-35.9	....	1.35	....	....	....		....	1.42	....	....	....	....	1.25	....	1.29	....	....	....	....	....	....	1.27	....
36-36.9	....	1.39	....	....	....		....	1.46	....	....	....	....	1.29	....	1.33	....	....	....	....	....	....	1.31	....
37-37.9	....	1.43	....	....	....		....	1.51	....	....	....	....	1.32	....	1.37	....	....	....	....	....	....	1.35	....
38-38.9	....	....	....	....	....		....	1.56	....	....	....	....	1.36	....	1.42	....	....	....	....	....	....	1.39	....
39-39.9	....	....	....	....	....		....	1.61	....	....	....	....	1.40	....	....	....	....	....	....	....	....	1.43	....
40-40.9	....	....	....	....	....		....	1.66	....	....	....	....	1.43	....	....	....	....	....	....	....	....	....	....

F.O.B. Standard Pipe Line

*F. o. b. ship.
‡Also McKittrick, Kern River, Kern Front and Round Mountain $0.70 thru 19.9 gravity; no higher gravity quoted. **Except Lakeview Area.

TRANSACTIONS IN OIL STOCKS ON NEW YORK STOCK EXCHANGE

1936 High	1936 Low	1937 High	1937 Low	Listed Shares	Par Value	Company	Current Dividend	Last Div. Paid	Transactions Week Ended May 1, 1937 Sales Shares	High	Low	Last	Week's Change
125½	75	114⅞	95	788,675	N.P.	Amerada Corp.	50cQ	Apr. 30, 37	2,800	101½	†95	101½	+ 1¾
35⅛	26⅛	37	29⅜	2,664,901	$25	Atlantic Refining Co.	25c	Mar. 15, 37	21,900	32	†29⅜	31	— 1⅛
118½	109	116½	111	148,000	$100	do pfd. A	$1.00	Feb. 1, 37	500	112	111	111⅜	— ¼
28⅜	13¼	43⅜	31	390,223	$10	Barber Co., Inc.	50c	Dec. 20, 36	13,600	37	†31	33½	— 3¾
28¼	14⅛	35¼	26⅛	2,247,974	5	Barnsdall Corp.	25c	Feb. 1, 37	38,500	30	27¼	28¼	— 2⅛
30	8¼	42	26	1,444,970	N.P.	Colonial Beacon Oil Co.	....	.....	10	*42	42	42	+ 2
17¼	11⅛	17¾	15	13,983,287	N.P.	Consolidated Oil Corp.	20c	Feb. 15, 36	84,100	16¼	†15	16	— ½
106½	101	105⅞	104¾	132,771	N.P.	do pfd	$1.25	Mar. 1, 37	100	105	105	105	+ ¼
44⅞	28⅛	47⅜	40½	4,682,662	$5	Continental Oil Co.	25c	Mar. 29, 37	22,800	45	41⅜	44½	0
13⅞	6⅜	17⅜	12⅛	1,098,618	25	Houston Oil Co. v.t.c.	....	.....	105,900	17	13⅜	16⅝	+ 2⅛
15⅛	4⅛	22¼	12¾	1,207,132	10	Indian Refining Co.	....	.....	1,300	16	15	15⅝	— ⅛
51½	13	35¾	28	40,000	100	Louisiana Oil Refining Corp. pfd.	....	.....					
6¾	2⅛	6¾	3¾	305,000	$1	Maracaibo Oil Exploration Co.	....	.....	4,600	4½	†3¾	4⅛	— ⅜
30⅞	17⅛	35⅝	28¼	1,855,912	$10	Mid-Continent Pet. Corp.	75c	Dec. 1, 36	17,600	31⅞	†28¼	30¾	— 1
29⅞	16¾	33¾	26⅞	1,399,345	N.P.	Mission Corp.	45c	Dec. 18, 36	4,500	29½	27¾	29½	+ ⅜
18	12⅛	22⅞	17⅛	6,563,377	N.P.	Ohio Oil Co.	35c	Dec. 15, 36	60,100	21¼	19⅜	20⅝	— ¼
23½	11⅜	29¾	22¼	1,000,000	N.P.	Pacific Western Oil Corp.	65c	Dec 18, 36	4,200	25¾	23	25¼	0
20⅝	12¼	17⅛	11½	4,699,885	$5	Pan Amer. Pet. & Transp. Co.	60c	Dec. 21, 36	1,100	11½	†11½	11½	— 1¼
4¼	1⅜	4½	2¾	199,370	N.P.	Panhandle Prod. & Ref'g. Co.	....	.....	4,700	3¼	2¾	3¼	0
74½	18½	99¼	60	17,994	$100	do pfd	....	.....	430	97	90	93½	— 1¼
18¼	12⅜	21⅝	16¼	2,153,444	5	Petroleum Corp. of America	40c	Dec. 24, 36	5,800	18⅞	†16¾	18⅝	— ⅜
52⅜	38⅛	59¼	49½	4,152,836	N.P.	Phillips Petroleum Co.	50c	Mar. 1, 37	37,300	56¾	53	56½	+ ¾
18¼	8	20¾	15¾	150,000	100	Pierce Oil Corp. 8% cum. pfd.	....	.....	3,600	17½	†15¾	17⅜	— ⅛
3⅜	1½	4⅛	3⅛	2,500,000	N.P.	Pierce Petroleum Corp.	....	.....					
27¾	11⅞	29⅞	24¼	1,050,000	$5	Plymouth Oil	25c	Mar. 31, 37	18,400	28⅝	26	28¼	+ ⅛
24⅞	16	24⅝	18¼	3,038,370	N.P.	Pure Oil Co.	....	.....	69,500	20¼	†18¼	19½	— 1½
118	91¼	107	99	167,640	$100	do 6% pfd	$1.50	Apr. 1, 37	400	102	102	102	0
133¾	103	112¾	108	130,000	100	do 8% pfd	$2.00	Apr. 1, 37	200	110⅜	110	110	— ½
18¾	17	18⅞	16	927,305	10	Quaker State Oil & Refg.	20c	Mar. 15, 37	3,300	17	16½	17	— ⅛
44	30½	54⅛	41	1,244,383	N.P.	Seaboard Oil of Del.	25c	Dec. 15, 36	16,200	46½	43¼	45	— 2
28¼	14¾	34¾	25⅝	13,070,625	N.P.	Shell Union Oil Corp.	25c	Dec. 15, 36	20,600	28¾	†25⅝	28⅜	— 2
127½	102	105¾	102	400,000	$100	do pfd. w.w.	$1.37½	Apr. 1, 37	1,700	103¼	102	102	— 1½
6¾	3½	4¼	3½	461,000	10	Simms Petroleum Co.	**$1.00	Jan. 9, 37	1,200	3¾	3⅝	3¾	0
47⅜	19½	60⅝	42	1,008,549	15	Skelly Oil Co.	....	.....	6,200	60½	52½	60½	+ 4⅜
132	97⅝	102¼	98½	120,000	100	do pfd	$1.50	May 1, 37	400	99	†98½	98½	— 1½
17½	12½	20¼	16¼	31,151,075	15	Socony Vacuum Oil Co.	25c	Mar. 15, 37	145,400	19⅜	18⅛	19⅜	0
47⅝	35	50	42⅜	13,014,754	N.P.	S. O. California	25c	Mar. 15, 37	23,500	44¾	†42⅜	44½	— ½
48½	32¾	50	43⅛	15,215,677	$25	S. O. Indiana	25c	Mar. 15, 37	18,000	45	†43⅛	44⅜	— ⅝
31	25	32	30¾	145,441	10	S. O. Kansas	$1.00	Dec. 26, 36	100	30¾	30¾	30¾	0
70⅜	51⅛	76	64	26,200,825	25	S. O. New Jersey	$1.25	Dec. 15, 36	51,600	67½	†64	66½	0
91	70	77½	68	2,019,093	N P.	Sun Oil Co.	25cQE	Mar. 15, 37	900	69	68	69	— ½
125	118	125	120	100,000	$100	do pfd	$1.50Q	Mar. 1, 37	270	124½	122	124½	+ 2¼
‡6¾	3	7¾	4⅝	966,979	$1	Superior Oil Corp. (Del.)	....	.....	33,200	6	5⅛	5⅞	— ⅛
55¼	28⅞	65⅛	50⅝	9,851,236	$25	The Texas Corp.	50c	Apr. 1, 37	106,900	61½	57¾	61	— 1⅜
15¼	7½	16⅝	12⅝	930,570	10	Texas Pacific Coal & Oil Co.	10c	Mar. 1, 37	26,100	14⅝	†12⅝	14⅛	— ½
21¾	19	21⅝	16¼	5,873,000	$10	Tide Water Associated Oil Co.	15c	Mar. 1, 37	28,200	18½	†16¾	18¼	— ⅜
106⅓	100⅝	108	96	695,503	$100	do pfd. C. T. V.	$1.12½Q	Apr. 1, 37	300	96	†96	96	0
28⅓	20¾	28¼	24⅛	4,386,070	$25	Union Oil of California	25cQ	Feb. 10, 37	18,900	25⅛	24⅛	25⅛	+ ⅛
31⅝	22⅝	31½	26½	1,200,000	N.P.	Union Tank Car Co.	40cQ	Mar. 1, 37	2,100	27½	†26½	27	— ½
2⅞	½	1⅝	¾	759,538	N.P.	Warner Quinlan Co.	....	.....	3,800	1	†¾	⅞	0
5¼	2¾	6¼	4¼	431,443	$5	H. F. Wilcox Oil & Gas Co.	....	.....	7,300	5	†4¼	4½	— ⅝

*New high. †New low. Ex-div. **Dividends of liquidation.
E also 6% stock dividend.

STANDARD OIL STOCKS ON NEW YORK CURB MARKET

1936 High	1936 Low	1937 High	1937 Low	Listed Shares	Par Value	Company	Current Dividend	Last Div. Paid	Transactions Week Ended May 1, 1937 Sales Shares	High	Low	Last	Week's Change
18	12¼	19	15¼	36,000	$25	Borne Scrymser Co.	75c	Apr. 15, 37	.....	.....	.....	.....	.....
50	39¾	51½	46	200,000	50	Buckeye Pipe Line Co.	$1.00	Mar. 15, 37	450	50	48¼	48½	— 1¾
124¼	105	122¼	110¼	120,000	25	Chesebrough Mfg. Co.	$1.00Q	Mar. 29, 37	100	121	119	119	— 1
39	19⅞	38	28½	6,974,356	$5	Creole Petroleum Co.	25c	Dec. 15, 36	15,000	33½	30¼	33	— ½
47½	38½	47½	37	50,000	$50	Eureka Pipe Line Co.	$1Q	Feb. 1, 37	.....	.....	.....	.....	.....
80	57	87	76½	8,985,662	N.P.	Humble Oil & Refg. Co.	37½c	Apr. 1, 37	5,400	81	†76½	79	— 3
24½	19¾	24¼	20⅛	26,965,078	N.P.	Imperial Oil Ltd.	°25cS	Dec. 1, 36	8,400	22⅛	†20⅛	21¾	— ¼
24⅜	19⅞	24	20⅜	.....	N.P.	do registered	25cS	Dec. 1, 36	400	21⅛	†20⅜	20⅝	— 1¼
9¾	5½	14⅞	7¾	300,000	$10	Indiana Pipe Line Co.	20c	Dec. 17, 36	700	13	11	11½	— 1⅝
39⅛	32⅝	39½	33¾	14,324,088	N.P.	International Pet. Co.	°75cS	June 1, 36	8,300	35⅜	34¼	35	— ½
38½	33⅝	38	35	.....	.....	do registered	....	.....	.....	.....	.....	.....	.....
15¾	9¼	11⅞	10	509,000	$12.50	National Transit Co.	35c	Dec. 15, 36	800	11	10⅜	11	+ ½
6¼	4¼	5⅜	4¾	100,000	5	New York Transit Co.	15c S.A.	Oct. 15, 36	.....	.....	.....	.....	.....
9¾	4⅞	11½	7½	120,000	10	Northern Pipe Line Co.	35c	Jan. 2, 37	600	*11½	11	11½	+ ¼
110⅝	104½	111½	108½	562,122	100	Ohio Oil Co. pfd.	$1.50Q	Dec. 15, 36	200	108½	108½	108½	0
8¼	5⅛	8¾	5½	394,000	$1	Penn Mex Fuel Co.	50c	Dec. 21, 36	100	5½	†5½	5½	— ¼
44	32½	48	42	1,142,671	10	South Penn Oil Co.	37½cQ	Mar. 31, 37	800	43½	42⅛	42⅝	— ⅝
7⅞	3¼	7¼	5	100,000	25	Southern Pipe Line Co.	20c	Mar. 1, 37	100	5⅞	5⅞	5⅞	— ⅛
60	44	42	30	35,000	10	South West Pa. Pipe Lines	50c	Apr. 1, 37	50	30	†30	30	— 1
23⅜	17½	20¾	19	2,604,801	50	S. O. Kentucky	25c	Mar. 15, 37	3,400	19⅝	†19	19¼	— ⅜
14⅝	11	13¾	11½	182,803	25	S. O. Nebraska	25c	Mar. 29, 37	300	12¾	12	12	— 1
40	21¾	45	33¼	753,740	25	S. O. Ohio	25c	Mar. 15, 37	2,200	39	35½	37¾	— 2⅛
107½	97	105¾	104	120,000	100	do 5% pfd.	$1.50Q	Apr. 15, 37	.....	.....	.....	.....	.....
13⅜	5⅛	17	11	34,158	15	Swan Finch Oil Corp.	....	.....	100	11	†11	11	— 1⅜

*New high. †New low. °Imperial Oil Spec. 37½c Dec. 1, 36. International Pet. Spec. 50c June 1, 36.
x Ex dividend.

CLASSIFIED

Positions Wanted

EXECUTIVE

thoroughly experienced in all phases of independent oil marketing seeks new connection where ability, clear thinking, sound judgment, aggressiveness and loyalty are requisites. Will furnish complete details in letter or personal interview.

Address Box 423

YOUNG MAN with long experience selling jobbers and dealers in Southwest, specialty oils and greases as well as gasoline, now employed in similar capacity by one of the large companies, would get in touch with aggressive company needing man to sell jobbers, Southwest territory. Can show successful record. Address Box 424.

Situations Open

PROCESS ENGINEER

Major engineering and contracting concern has an opening in its process design division for a chemical engineer with from five to ten years experience in design of distillation, cracking, stabilization and gas recovery units. Applicant must be well versed in present day refinery practice and possess ingenuity. Salary commensurate with ability: Position permanent. Give complete details education, experience, recommendations and salary expected first letter. Reply treated in confidence.

Address Box 418
care National Petroleum News

MALE STENOGRAPHER

between ages 25 and 30, preferably a college graduate in mechanical or chemical engineering, or equivalent experience.

Address Box 425

Business Opportunities

OVERSEAS BUYER requires quart samples and carload prices on Mid-Continent and Texas Red Oils, high grade turbine spindle and transformer oils. P. O. Box 292, Osaka, Japan.

SALE AND PURCHASE
of
GASOLINE-and-OIL COMPANIES
BULK PLANTS and JOBBING CONCERNS
Confidentially Negotiated
WM. WISHAR
Broker of Oil Marketing Properties
2331 Grandview, Cleveland Heights, Ohio

Professional Services

PHOENIX
CHEMICAL LABORATORY
An Exclusive Petroleum Testing Laboratory
Equipped For All Known Tests and Research in Petroleum Products
3953 Castello Ave., Chicago
Telephone—Spalding 3578

ANTI-KNOCK VALUES
DETERMINATIONS
The Gray Industrial Laboratories
Chemists and Engineers
Specialists on Petroleum Products
961-976 Frelinghuysen Ave.,
NEWARK, N. J.
Telephone Bigelow 3-4030

Oil and Royalty Stocks on New York Curb

1936 High	1936 Low	1937 High	1937 Low	Par Value	Company	Transactions Week Ended May 1, 1937 Sales Shares	High	Low	Last	Week's Change
1 7/8	1/4	2 1/16	1 1/4	N.P.	American Maracaibo	24,600	1 7/8	1 1/2	1 7/8	+ 1/16
8 1/4	3 1/4	12 7/8	7 1/8	N.P.	Arkansas Nat. Gas	8,500	8 1/8	†7 1/8	8	— 1/8
8 1/4	3 1/4	13 1/4	7 1/2	N.P.	do A	16,900	8 3/8	†7 1/2	8 1/16	— 3/8
10 7/8	7 1/4	10 3/4	8 1/4	$10	do pfd	1,800	9 1/8	†8 1/4	8 7/8	0
7 1/4	6 1/4	8 1/4	6 1/4	$1	Ashland Oil & Refg	8,400	6 7/8	†6 1/4	6 1/2	— 1/4
27 1/4	16 1/2	26 1/4	22 5/8	N.P.	British Amer. Oil coup.	200	22 5/8	†22 5/8	22 5/8	— 1 5/8
4 1/2	1 7/8	2 3/4	1 7/8	$1/4	Carib Syndicate	22,200	2 3/8	2	2 3/8	+ 1/8
7 3/4	3	5 3/4	3 3/8	N.P.	Cities Service	84,300	3 7/8	†3 3/8	3 5/8	— 1/4
66	41 1/4	60	46 1/2	N.P.	do pfd	11,600	51 5/8	48 1/2	51 1/2	— 1/2
6 1/4	3 3/4	5 7/8	4 1/2	N.P.	do pfd. B	1,000	4 3/4	4 3/4	4 3/4	— 1/4
63	40	58	42	N.P.	do pfd. BB	110	48	45	48	— 2
4	1/4	....		N.P.	Colon Oil Corp.	....	....	....	....	....
10 1/4	3/4	10 7/8	6 7/8	$1	Columbia Oil & Gas	31,800	8 3/8	†6 7/8	8	— 3/8
3 1/2	2	3 1/8	2 3/4	$10	Consolidated Royalty	....	....	....	....	....
4 1/2	1 1/4	4 3/4	2	$1	Cosden Oil	3,300	2 1/4	†2	2 1/4	+ 1/8
38 1/4	6 1/2	39 7/8	27 3/4	$100	do pfd	400	31 1/8	27 3/4	30	— 2 1/8
2 3/4	1 3/4	2 3/4	2	N.P.	Crown Central Pet.	7,200	2 3/8	2	2	— 1/4
2 3/4	3/4	2 3/4	1 1/4	N.P.	Crystal Oil Refg.	....	....	....	....	....
18 1/2	9	18 1/2	13 7/8	$5	Darby Petroleum	1,900	15 1/4	†13 7/8	14 3/4	— 1/2
6 3/4	1 7/8	8 1/4	5 1/4	N.P.	Derby Oil & Refg.	3,400	7 5/8	7	7 1/8	— 3/8
81	25 1/2	88	76	N.P.	do pfd	200	82	77	77	— 2
59	54	63 1/2	52 1/2	$25	Gulf Oil Corp.	15,100	57	†52 1/2	56 3/4	+ 1/4
6 1/4	2 3/4	4 1/8	3 1/2	N.P.	Indian Ter. Illg. Oil A	200	3 1/2	3 1/2	3 1/2	— 1/4
6 1/2	3	4 1/8	3 1/2	N.P.	do B	300	3 1/2	†3 1/2	3 1/2	— 1/8
5 3/4	2 3/4	8 3/4	5 1/4	$1	Kirby Petroleum	4,000	6 5/8	5 1/2	5 3/4	— 7/8
2	1/2	2 1/2	1 1/16	$25	Leonard Oil Dev.	12,200	1 3/8	1 1/8	1 3/8	— 1/8
17 3/4	7 1/2	26 3/4	16 1/2	N.P.	Lion Oil Refg.	7,300	23 1/4	21 1/4	22 7/8	0
14 1/4	9 1/4	14 1/2	10 3/8	N.P.	Lone Star Gas	9,100	11 3/4	10 7/8	11 3/4	+ 3/8
22 1/4	12	33 1/2	25	N.P.	Margay Oil Co.	200	27 1/2	27 1/2	27 1/2	— 1/2
4 1/8	1 1/8	4 1/4	2 3/8	N.P.	Mexico-Ohio Oil	100	2 3/8	2 3/8	2 3/8	+ 1/8
4 3/4	1 1/2	11 1/8	2 3/4	$1	Michigan Gas & Oil	2,800	9 5/8	9	9 5/8	— 3/8
6 3/8	2 3/4	7	4 3/4	N.P.	Mid. States Pet. A vtc.	2,300	5 1/4	4 3/4	5	— 3/8
2 3/4	1/2	2	1 1/2	N.P.	do B vtc.	1,700	1 1/4	1 1/8	1 1/4	0
8 3/4	5	7 7/8	6	$10	Mountain Producers	3,400	6 1/2	6 1/8	6 1/4	— 1/4
23	17 3/4	19 1/2	15 5/8	N.P.	National Fuel Gas	3,700	16 3/8	15 7/8	16	— 5/8
4 5/8	2 1/4	6 1/8	4 3/4	$5	New Bradford Oil	....	....	....	....	....
8 5/8	3 5/8	6 1/8	5	$5	North Central Texas	400	5 1/2	5 1/4	5 1/4	— 1/4
1/8	1/8	1/8	1/8	$1	North European	8,500	3/8	1/4	1/4	— 1/8
17 1/8	12	14 1/2	13	$5	Oil Stocks Ltd. A	300	13 5/8	†13	13	— 1/2
10 1/2	3 1/4	9 3/4	5 1/2	$1	Pantepec of Venezuela	27,100	6 1/2	5 1/2	6 1/4	— 3/8
1/8	1/8	1/8	1/8	25c	Producers Corp.	7,700	1/8	3/8	1/8	— 1/8
20	3	17 1/2	10	N.P.	Red Bank Oil	1,500	16	14 3/8	15 3/8	+ 1 1/8
1 1/2	1/8	1 3/4	3/4	N.P.	Reiter-Foster Oil	3,900	1 3/8	1 1/8	1 1/4	— 1/8
2 3/4	1/2	....	....	$25	Richfield Oil pfd.	....	....	....	....	....
19 1/4	4 1/2	13 3/4	6 1/8	$1	Root Petroleum	4,500	7 3/4	†6 1/8	7	— 3/4
23	14 1/2	18	13	$20	do conv. pr. pfd.	100	13	†13	13	— 2
4 3/8	1 1/2	6 1/2	4	N.P.	Ryan Consolidated	7,100	6	5	5 7/8	0
11 1/4	6 1/4	11 1/2	8 3/4	N.P.	Southland Royalty	6,700	10 3/4	9 7/8	10 1/2	+ 1/2
5	2 3/4	4 3/8	4	$1	Sunray Oil	10,900	4 1/2	4 1/4	4 1/2	0
49	45	50	45 1/4	....	do pfd	....	....	....	....	....
9 3/4	5 3/4	7 3/4	6 1/8	N.P.	Texon Oil & Land	3,100	6 1/8	5 3/4	5 7/8	— 1/2
8	2 3/4	9 1/4	6	....	Venezuela Mex.	400	7 1/8	6 3/4	7	— 1/8
3	1 1/4	3 3/4	1 3/4	$1	Venezuela Petroleum	5,900	2	1 3/4	2	0
11	5 3/4	12 7/8	8 3/4	$1	Woodley Petroleum	1,900	9 1/2	8 1/2	9	— 3/4

*New high. †New low

Oil Dividends

Dividends Waiting Payment

Company	Amount	Record	Payable
Buckeye Pipe Line	$1.00	May 28	June 15
Cons. Oil pfd. q.	$1.25	May 15	June 1
Mid-Continent Petr.	50c	May 10	June 1
North Cent. Texas Oil	15c	June 10	July 3
Northern Pipe Line	40c	May 14	June 1
Pet. Corp. of America	40c	May 13	May 29
Quaker State Oil Refg.	25c	May 29	June 15
Seaboard Oil of Del. q.	25c	June 1	June 15
Sun Oil q.	25c	May 25	June 15
Sun Oil pfd. q.	$1.50	May 10	June 1
Tide Water Assoc. Oil	20c	May 10	June 1

New York Bonds

Week Ended May 1

	High	Low	Last	Change
Atlantic Refg. deb. 5s	100 11/32	100 11/32	100 11/32	— 1/32
Houston Oil 5 1/2s '40	102	101 3/8	102	+ 1/4
Pure Oil 4 1/4s '50 w.w.	119	114	118	—3
Pure Oil 4 1/4s '50 x.w.	103 3/4	103 1/4	103 1/2	— 1/8
Richfield Oil of Calif. 6s	52 1/4	52 1/4	52 1/4	—2 1/4
do 6s ctfs.	50 1/4	48	48	—6 1/2
Shell Union Oil 3 1/2s '51	98 1/2	97	98 1/2	+1 1/8
Skelly Oil 4s '51	98	97 1/4	98	— 3/4
Socony-Vacuum 3 1/2s '50	104 3/4	103 1/4	104 3/4	+1 3/4
S. O. N. J. 3s '61	96 5/8	95 3/4	96 5/8	+ 5/8
Union Oil of Calif. 3 1/2s '52	110 7/8	109 1/8	109 3/4	—1 1/4
Warner-Quinlan 6s '39	47 7/8	45 1/8	47	— 1/4

Pittsburgh Stock Exc.

Transactions Week Ended April 30, 1937

	Sales	High	Low	Last	Change Over Week
Ark. Nat. Gas	95	8	7 3/4	7 3/4	—1 1/4
do pfd	20	8 5/8	8 5/8	8 5/8	— 1/4
†Cities Serv.	157	4	3 3/8	3 3/4	+ 1/8
Col. Gas & Elec.	1,183	14 1/8	12 1/2	13 1/4	—1 1/8
†Col. Oil & Gaso.	167	8 3/8	7 1/4	8 1/4	0
Lone Star Gas	1,930	11 3/8	11	11 3/8	+ 1/4
† do 6 1/2 p.c. pfd.	100	111	111	111	+ 1/2
Mountain Fuel Supply	3,747	9 7/8	9 1/2	9 3/4	— 1/2
Phoenix Oil	2,000	09	09	09	+ 01
do pfd	500	15	15	15	+ 05
Pgh. Oil & Gas	218	2 1/2	2 1/2	2 1/2	0
Plymouth Oil	52	27 1/2	27	27	—2
Shamrock Oil & Gas	4,280	6 3/4	6 1/2	6 1/2	— 3/8
†Standard Oil of N. J.	393	67 1/4	64	65 7/8	—2 3/4
Waverly Oil Wks. A	165	4	4	4	—3

†Unlisted.

New York Curb Bonds

Week Ending May 1

	High	Low	Last	Change
Cities Serv. 5s '66	72	70 3/4	72	— 3/4
Cities Serv. 5s '50	72 5/8	70	71 3/4	+ 3/4
Cities Serv. G. 5 1/2s '42	100 1/2	99 1/2	100 1/4	+ 1/8
Empire O & R 5 1/2s '42	90 7/8	89 1/2	90 1/8	0
Valvoline Oil 7s '37	100	100	100	0

Cleveland Stock Exc.

Transactions Week Ended May 1, 1937

	Sales	High	Low	Last	Change Over Week
Canfield Oil	....	....	....	....	....
do pfd	....	....	....	....	....
Nat'l Refining	90	10 1/4	9 1/4	9 1/4	—1
do pfd	....	....	....	....	....

ADVERTISING PAGES REMOVED

SHOWMANSHIP

Is Feature of West Coast Station Design

CONSTRUCTION of new service station facilities continues to feature building programs of most west coast companies, but consideration is being given more and more to the rehabilitation of existing outlets.

In keeping with this trend, much missionary work among dealers is showing them how the expenditures of a few dollars for lifting the face of an ancient building, or for rearranging the layout of facilities so as to improve visibility and accessibility, will improve trade volume.

By contributing helpful suggestions, the oil company is able to direct the design of this remodeling along lines which will bring the dealer stations into harmony with the general appearance of company-controlled units. In other words, this

By JACK N. WESTSMITH
N. P. N. Staff Writer

program extends the thought of institutional identification right down into the dealer ranks.

Emphasis is laid on the need for modernized service stations and up-to-date equipment, if the dealer would continue as a "going" concern and get his legitimate share of new business.

Elaborate facilities requiring large expenditures are not indicated even in a majority of cases. In fact the experience of several leading marketing companies on the Pacific Coast has shown that a few minor changes requiring only a few hundred dollars will often turn a "lemon" into a "peach."

In pointing toward modernization of existing dealer outlets, these companies have stressed the importance of certain improvements which were indicated as money-makers following rehabilitation of their own stations.

Compactness of layout, accessibility of approach, modern equipment— with specific suggestion for computing meter type pumps and up-to-date lubrication paraphernalia—larger and better lighted sales rooms for merchandising and displaying tires, batteries and accessory items, paved yards, and improved yard lighting, are among the important considerations of these revamping programs.

These companies have for the past sev-

Angled locations for station buildings and pump islands are not favored in modern layouts. This General Petroleum dealer station at Third and Stone, Tucson, Ariz., was completely revamped in eliminating this feature and in bringing the station into line with the company's identified design. Computing type pumps and air and water wells combine to give the pump islands a neat appearance. This station operator believes in advertising his lubrication equipment

Not all designs are antiquated in Texaco's new program. Addition of an inclosed lubrication, tire and battery room to this Monterey type station in Fresno, California, plus asphaltic paving and a new yard lighting system, kept the outlet abreast of the times

eral years observed the results of improvements made to owned or controlled units and these factors were indicated as most productive of results.

That is, they studied the effect of consolidating the lubritorium with the sales building to save the operator steps and, thereby, put him in a better position to increase his volume. They studied the effect of new equipment—of new pumps, grease guns, and other auxiliary tools. If a paved yard and wider approaches brought the business in, a plus mark was placed opposite that factor.

IGHT on down the line, the effect of these considerations was studied in an effort to evaluate them for use in this program of dealer rehabilitation and in modernization of their own out-dated facilities.

If it is granted that results can be obtained by a well organized modernization program, then the reader might be interested in the specific factors which one California company used as a guide to the rehabilitation of existing retail outlets.

The service station construction and maintenance department of the Union Oil Co. uses a particularly comprehensive yardstick in measuring the possibilities of retail outlets under its control. Before any remodeling is done the following factors are carefully considered:

1. Personnel. Where a station's gallonage does not appear to be all that it might be, the personnel is scrutinized for possible weak links. By making changes or suggestions here, improvements often are found possible without any outlay of cash.

2. Appearance of station. Consideration is given here to the cleanliness and tidy appearance of the unit—both exterior and interior. Special attention is suggested for the rest rooms to see that they are not "sore thumbs."

3. Ease of ingress and egress. Consideration of this factor takes into account apparent accessibility from the street approach, as well as actual ease of access to the pump islands and service departments. Many women customers are found particularly sensitive on this matter of convenient approach.

4. Equipment. Here the consideration is as to completeness and serviceability of the equipment and strong affirmative answers must be heard to the queries: It it well located, and does it convey a general impression of efficiency?

5. Condition of yards. In addition to a study of whether or not the yards are paved, this analysis looks into whether they are level, dry and clean.

6. Visibility of station. This factor is considered especially important in determining reasons for back-sliding on the part of highway stations. In general, the location—highway or city—is analyzed in respect to its ability to be seen for some distance before the motorist is actually upon it.

The outdoor lubrication display cabinet developed by Texaco engineers and sales representatives to aid in selling other products at the left. Doors at both sides fold together to enclose the unit at night

7. Compactness. This item applies to the various working units comprising the station as a whole. The ideal arrangement, in Union's experience, is a group of individual departments, closely bound to the salesroom with ease of access between different departments and complete visibility of all units from any portion of the service station property.

If these factors prove to be satisfactory upon detailed inspection and yet the gallonage of the station is still not what it should be, then the company considers remodeling the unit. To determine what the gallonage should be at the particular unit, a quota is set, based on the locality's sales potential and upon the company's general percentage of the area's business.

IN THIS company's renovation program, only in a few instances is the existing structure razed and a new one built. Generally it is possible to revamp the layout along desired lines. Buildings are streamlined to accord with the standard architectural identification of the company's units.

Often buildings are relocated on the lot to provide better accessibility and visibility from the street. It might be said that the first step in the modernization program looks to re-arrangement of facilities with regards to maximum operating visibility and compactness. In Union's scheme, this calls for locating the lubrication department adjacent to the sales room.

Perhaps the next most important feature involves the modernization of rest rooms. Here, a smooth finish is given walls and ceilings for ease in cleaning. Asphalt tile floors are general practice and attractive chrome-plated fixtures, such as mirrors, cabinets and soap dispensers, are added. Purse shelves for

NOW READY—AFTER YEARS OF PREPARATION

The 1937 Chexall ACCESSORY BLUE BOOK

A NEW Service by the Publishers of CHEK-CHART

● Thruout America oil companies, large and small, are waking up to the startling profit possibilities of a well planned program of ACCESSORY sales. Experience proves that such a program creates a profit equal to *2¢ or more* on every gallon of gasoline sold. Does that 2¢ EXTRA margin interest you? Then you'll want CHEXALL — the new service that provides in one handy volume ALL the information you need to create customer confidence, banish guesswork, build business. Here for the first time in one volume are complete factory-approved accessory specifications for all current makes and models . . . practical merchandising and display ideas . . . new ways to develop business . . . stock control suggestions . . . full inspection and installation instructions. Over 350 authentic pages warranted to give station men a NEW idea of accessory possibilities and how to cash in on them. A $5 investment that returns hundreds of dollars profit. Send in the coupon for your copy of the 1937 edition.

Handy pocket size

Book opens flat at any page

Cover treated to resist grime and use

A Sure Means to Bigger Profit

1. A gold mine of selling information—how to display and merchandise, spot need for replacement, operate at profit.

2. Anti-freeze proportion table, accessory cross-reference tables, pocket envelope for price data.

3. 23 pages of installation instructions, clearly illustrated—quickest and best method of installing every replacement accessory.

4. Complete, detailed specifications of accessories—including location, number used, car maker's part number and full dimensions. Arranged by car models, with title pages illustrating radiator emblems for quick identification. First and only work of its kind—the key to bigger accessory profits.

NPN

COUPON

CHEXALL Division, The Chek-Chart Corporation,
624 S. Michigan Ave., Chicago

Send me the 1937 CHEXALL. I will pay postman $5 plus C. O. D. charges. You will refund $5 if in 5 days I decide to return the volume.

Name .....

Address .....

Compactness of detail is stressed in this Shell station at Santa Rosa, California, home of Luther Burbank

the convenience of women patrons have found wide acceptance.

A color scheme using the company's three hues is incorporated into the rest room decoration: white walls are combined with a blue tile base and orange floor.

For wall finish material, Union's engineers are giving considerable study to use of asbestos wainscoting, which resembles tile. They point out that it can be installed in three days as against the two to four weeks required for plastering installation.

These finish materials are also declared to have the advantage of ready removal and portability in the event of future changes or expansion, as well as providing absolutely sanitary conditions with pleasing appearance.

Illumination, as a means of attracting night customers, is a part of Union's rehabilitation and new station construction programs. Floodlighting is done with demountable type units, using 500 to 1000 watt lamps, depending upon requirements of the individual station. This type is favored because it permits easy maintenance and lamp changing. It is raised and lowered to shoulder height by means of a chain attachment which obviates the hazardous and troublesome ladder-procedure.

UNION has established a standard height of 27 feet above grade for setting these overhead yard lights. This arrangement provides sufficient downward angle to the beam to eliminate glare in the eyes of the motorist approaching the station or in the yard.

One of the universal practices now followed by Pacific Coast marketing companies in their service station construction—new or modernized—is the inclusion of air and water hoses at the pump island. High speed pumps plus adequate personnel makes it possible, with this equipment, to give a motorist complete, fast service at one stop alongside the pumps.

If the customer is not in too much of a hurry he can get almost any service except a shave and a bath. He will certainly get all windows cleaned and the body-dust wiped off. One result of this super-service has been to flood the offices of California oil companies with fan-mail from appreciative out-of-state motorists.

All Union Oil Co. new and remodeled station yards are now paved with two inches of asphaltic concrete, "Topeka mix," laid over a 2-inch base of decomposed granite. The "Topeka mix" consists of an asphalt binder and crushed rock, not over one quarter of an inch in diameter. This provides a non-skid surface that also is impervious to water. A 4-inch concrete slab is used at the pump islands.

New model, low-slung automobiles have presented a problem of clearance at the lubrication hoists, which Union engineers solved by sinking the hoist two inches into the floor. This permits the car to drive above the hoist with its wheels at floor level and still clear the "dogs."

Where weather conditions demand, the lubritorium is inclosed with steel walls and folding doors. Sash are placed four feet above the ground level so that visibility is obtained from any place in the station. In mild climates, the hoist room is left open for greater accessibility.

The air compressor is supported overhead to conserve floor space and is equipped with control valves for operation of various compressed air equipment located at hand height, or three feet. For the average station, a 1.5 horsepower compressor with a 20 x 48-inch tank of

Before and after Texaco's "T" type station at Wenatchee and Kittitos streets in Wenatchee, Washington, was modernized. The original framework was used, but steel sheeting, combined with full length windows, gave a modern appearance. Display shelving, featured by the company in its service station merchandising program, may be seen around the walls of the sales room and lubritorium

The Culmination of 72 Years of Service to the Oil Industry

1864

The factory where Gilbert and Barker, with the help of Hiram Maxim, perfected the Springfield Gas Machine.

1937

The Gilbert and Barker Plant today. Covering 18 acres, it is the largest of its kind in the world.

GILBARCO CALCO-METER EIGHTY-SIX

The Gilbarco Calco-Meter 86 is the greatest triumph in 72 years of scientific engineering in petroleum dispensing equipment. Here is beauty of design, simplicity of construction, and precision of performance no other oil pump in the world can equal.

GILBERT & BARKER MFG. COMPANY • SPRINGFIELD, MASS • TORONTO, ONT., CANADA

As part of its program, Texaco has eliminated the partition between "lube" room and the tire and battery sales room. Small accessories are displayed on the slant-topped table in the archway

Departmentalized service stations have been adopted by Texaco in saving steps and in speeding a sale to a close. Every selling aid necessary to prove the customer's need for these "extra" profit items is contained in each display

65 gallons capacity has been found ample.

In the main station unit, windows are dropped to 24 inches above the floor as a means of improving the display possibilities and providing greater visibility for the operators.

FOR the exterior finish of the new-type stations, synthetic enamel is used on steel. In this connection, it might be of interest that 16-gauge steel is used for the main body of the building, with 20-gauge material on the canopies and upper portions.

In keeping with the straight lines of the station design, whether it is a new or modernized unit, is the formality of the station yard.

This company feels the most satisfactory solution is to keep station yards clean and unencumbered, bounding them with 42-inch galvanized iron fencing. This height was selected so that small boys would not catch the seat of their pants when trying to climb the fence. They do not try at 42 inches.

Another indication of this widespread and growing interest in rejuvenation of existing service station facilities, is the procedure followed by General Petroleum Corp. in its own modernization program and in the suggestions offered to dealer accounts.

In looking at the station layout, consideration of the driveways under service station canopies indicafes whether the space is so narrow as to make approach to the pumps difficult. Widening of the canopy drives has proved helpful in attracting customers to the station.

Because most of the older service station buildings are provided with small windows which are broken up into small panes, improvements are generally possible in that direction. For a relatively nominal expenditure the window arrangement of a station building can be altered, this company finds, to give large clear-vision openings particularly suitable to display purposes. Double strength glass is recommended for these larger windows.

Display is a definite feature of General Petroleum's merchandising program and its new and modernized construction makes provisions to that end. Display cases for merchandising specialties and accessories have been included with considerable success in recent construction. In addition to the effective shelving and counters along the blank wall and below the window line, this display feature embodies the use of table-racks in the center of the salesroom floor.

Analysis of some existing stations showed them to be completely out of step with modern building design and not architecturally in harmony with the company's own stations. It was found often possible to install new cornice work and make other changes which would give the buildings a semi-modern appearance with moderate expenditures.

Where these older stations had heavy columns supporting the canopy, or as corners of the salesroom, lighter members of adequate strength to carry the load were substituted. This change gave greater prominence to pump island and display equipment.

THIS company also stresses the importance of replacing the old style gasoline pumps with the metered, computing type, as a means of speeding up service, providing greater accuracy and improving appearance of the pump island.

In the same breath, new and modern lubrication equipment, displayed on an attractive rack, is pointed to as offering considerable aid in "selling" lubrication.

With modern equipment and facilities, this company's experience indicates it is easier to sell the customer. One engineer said: "He (the customer) obtains better service, a more satisfactory job and the use of modern facilities introduces a 'showmanship' that sells the car owner on the station's ability to do satisfactory work".

A study of the concrete approaches from the street into the station yard has indicated improvement is usually possible. This is particularly true where the drives have been in place for some years. Traffic conditions may have changed since the station was built which would indicate a need for change or rearrangement in approach location.

An in-and-out runway on the main thoroughfare has solved the problem of many stations, as it permits the customer to swing in and out of the pump driveways without cutting across traffic. Sometimes this calls for a shift in location of the sales building and pump islands toward the center side of the lot along the main street. Again this is a matter for individual analysis.

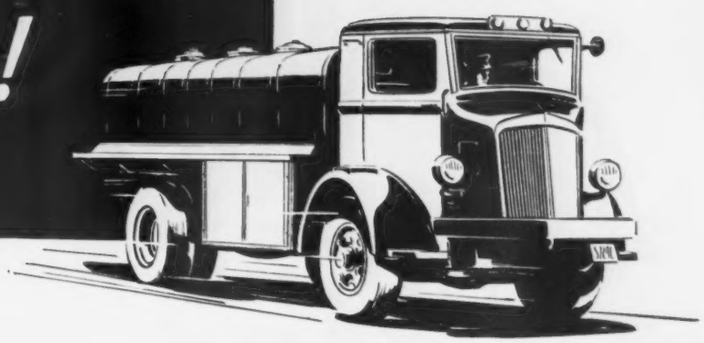
It has often been proved advantageous to lengthen the concrete approaches to the station—provided ordinances permit

New streamline design features Union Oil Co. service station construction on the Pacific Coast. Another illustration of display possibilities offered by large windows facing the approach and driveways. Air and water hoses are hidden in wells at either end of the pump island to add to the neat appearance

PUT GOODYEARS ON YOUR

OIL TRUCKS

-and Watch your Mileage Jump!



MORE MILES AT LESS COST!

ASK THE MEN in your own line of business—operating trucks just as you do—about tires.

More of them than not will start right in telling you of exceptional mileage records on Goodyear Tires. That's why—

More tons are hauled on Goodyear Truck Tires than on any other kind.

Goodyear builds a type and size of truck tire for every trucking need—for every purse.

It's a safe prediction you'll save money if you let the Goodyear dealer near you show you the Goodyear Truck Tire best fitted for your work.

Read the money saving features at the right. Then put Goodyears on your trucks and *—Watch Your Mileage Jump!*

THE GOODYEAR TIRE & RUBBER CO., INC, AKRON, OHIO

MONEY SAVING FEATURES

- Patented Pre-Shrunk Supertwist Cord Construction for greater body strength, protection against blowouts.
- Chemically-toughened, heat-resisting rubber in both tread and body.
- Cooler running High Profile Construction.
- High Shoulder Tread Shape for slower, more even wear.
- Braided Wire Beads to protect against swaying loads.

There's a GOODYEAR BATTERY now!

GOODYEAR TRUCK TIRES

. . . No more nights spent working on my books—for me, those nights are gone forever—thanks to the fact that I'm buying the two oils I need from BAYOU STATE. It cuts down on my bookkeeping, I'm saving money on product costs, and more than that I'm building up new accounts with their superior quality "80 SERIES" PREMIUM and "70 SERIES" MOTOR OILS."

Day after day more and more jobbers are joining the BAYOU STATE ranks. They're learning that by buying their premium and competitive oils from BAYOU STATE they save time, money, and BUILD to GREATER PROFITS.

"80 SERIES"
Premium MOTOR OIL

A non-carbonizing oil, 100% distilled from the famous Hosston (mixed-base) crude.

"70 SERIES"
MOTOR OIL

Quality at the right price makes this "Better Oil" 1937's outstanding value for your competitive product requirements.

BOTH OILS AVAILABLE IN SAME COMPARTMENT CAR IF DESIRED

WRITE TODAY FOR PRICES AND SPECIFICATIONS

Bayou State
OIL CORPORATION - SHREVEPORT, LA.

—so as to accommodate faster and heavier traffic. The low-slung modern cars require a flatter slope of the approach so that bumpers and mufflers will not be damaged.

General Petroleum also suggests to its dealers the use of picket fences for improving service station appearance. Moderate landscaping is also recommended, but the dealer is cautioned that the fences, lawns and shrubbery must be given proper attention, if they are to give the desired atmosphere.

A review should be made of signs about the station. Those which are not needed and which do not present a good appearance should be removed. A few well placed signs are of more value than a conglomeration of them placed on the property haphazardly.

As part of its service station program, The Texas Co. has adopted a design which lends itself equally well to the demands of any location or sales volume, and one that can form the pattern for rehabilitating existing facilities.

Accompanying illustrations point out some of the possibilities presented by this design for revamping old-type outlets into modern merchandising units. The layout is particularly flexible in that the sales room may be used alone, with or without canopies over any desired arrangement of pump islands, or it may be coupled with one, two, or even three lubrication bays attached to either side or back.

This company has been especially successful in building "display" into its retail outlets. Full-length, unbroken windows permit an unobstructed view of the sales room interior, which is equipped with shelving and counters for attractive display of package goods and accessory products.

Display is also featured in the lubrication department, or perhaps we should say in the combination lubrication, tire and battery sales room. In remodeling some earlier units, Texaco was able to improve the back-end atmosphere by knocking out the center partition between the lubritorium and the battery and tire sales room.

This made it possible to rearrange merchandise and equipment displays in the combined room so that a considerable saving in time was effected. Sales of lubrication, batteries and tires showed appreciable increases as a result of this change and, by opening the rooms up, the tendency to use either one as a storage place for odds and ends, was removed.

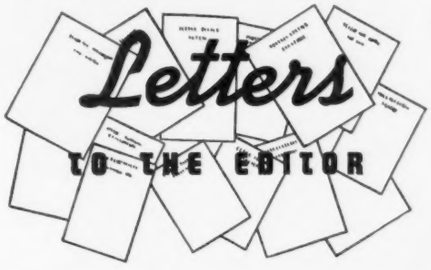
Another addition the company has sponsored at its dealer outlets is a combination lubrication equipment and merchandise display cabinet. This unit provides a neat, attractive background in the lubrication bay. It improves the atmosphere by making a lubrication department out of the old grease rack.

A close study of results, following the first month's use of one of these cabinets, has proved its worth. Lubrication revenue in many instances showed appreciation of upward of 35 per cent within the first 30 days after installation.

This increase is not necessarily in lubrication jobs, but applies to all products used in servicing a car on the lift. The display cabinet carries two complete

grease-gun racks, which flank a central display of small package goods — cup grease, household lubricant, motor oil, spark plugs, oil filters, or other items. Below this space is provided for drums of the various chassis lubricants and displays of the larger package goods.

Similar cabinets, which have folding doors and can be locked, are used with equal success on open, outside lubrication departments.



Dear Editor:—

Yours of the 9th, enclosing a reprint of Governor Allred's public statement was very considerate and thoughtful of you in mailing this out. While your letter was addressed to Mr. Decker, I am taking the liberty, during his absence in South America, of thanking you in behalf of the concern for your thoughtfulness.

It seems too bad that our "spineless Ward Heeler" type of politicians have gotten so thoroughly in command of things in general, and that there are so few like "Jimmie" Allred, and Premier Hepburn of Ontario, who have shown that they have the "intestinal fortitudes" to do the things necessary to break this communistic trend of the Administration of the Ward Heelers.

I further think that among the Industrials they have a Tartar in Henry Ford. You are well aware of his standing with regard to the N.R.A.—he stood pat, and they had to like it; I think he will do the same again.

I also want to compliment you on your recent editorial, it is just such things that will get the job done.

Yours very truly,

Martin-Decker Corp.
By W. R. Martin
Long Beach, Calif.

To Manage Kenda

LOS ANGELES, April 30.—R. E. Collom, vice-president of Continental Oil Co. and now in his third term as president of the Kettleman North Dome Association, has been given executive authority to manage and conduct all affairs of that association.

By this move Mr. Collom assumes the responsibilities previously shouldered by William Reinhardt, who resigned April 1 as manager of Kenda to head up oil development operations for Union Pacific Railroad.

Another change in the Kenda management saw James H. Sargent made manager of operations.

ARE YOU ONE OF THE

1,000 OIL MEN

Who Get Lower Rates

From NATIONAL PETROLEUM MUTUAL
FIRE INSURANCE COMPANY

225 So. 15th St. Philadelphia, Pa.

INCREASED VALUE AT NO EXTRA COST

THE "OVERHEAD DOOR"

WITH

Salt Spray Steel

TRACKS AND HARDWARE

TESTED

BY A STANDARD SALT SPRAY TEST

THE HOME GARAGE

From the beginning The "OVERHEAD DOOR" has been designed to meet the architectural trends. Stiles and Rails from clear vertical grained SITKA SPRUCE.

Hand or Electric Operation

Wood or Steel Sections

THE GREASING STATION

The "OVERHEAD DOOR" with the removable rolling center posts supplies a door for each bay or makes available full width of opening, another desirable convenience.

Backed by

A NATION-WIDE SALES INSTALLATION SERVICE

CLIP THIS COUPON *Today!*

For further information— See coupon.

MADE IN ANY SIZE FOR ANY OPENING, ELECTRIC OR HAND OPERATION

Please send me literature and full information regarding your product. I am interested in doors for the particular purpose as checked.

Name_____

Address_____

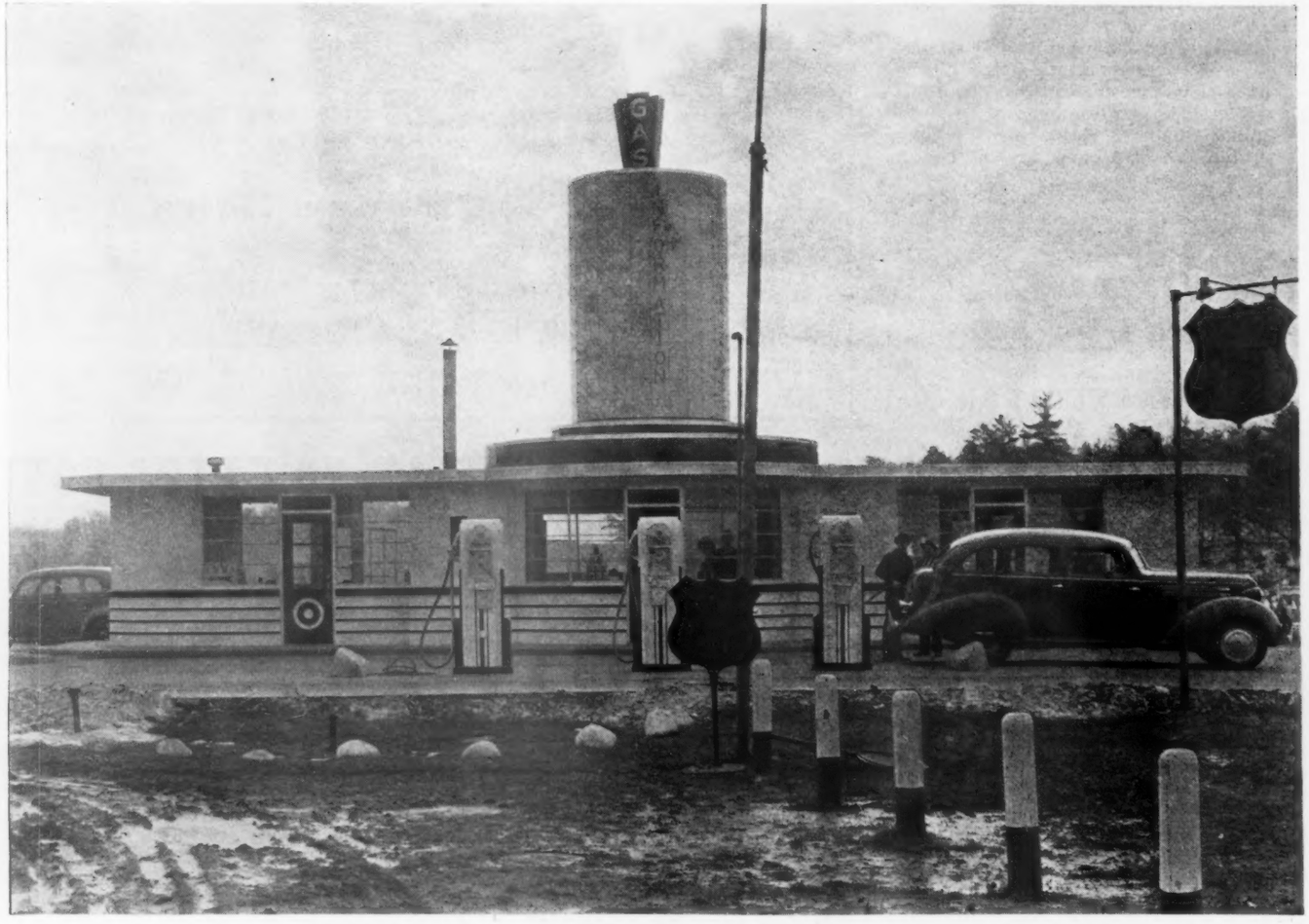
City_____ State_____

Mail to: OVERHEAD DOOR CORPORATION, Hartford City, Indiana, U. S. A.

Private Garage_____
Public Garage_____
Warehouse_____
Filling Station_____
Wood Doors_____
Steel Doors_____
Factory Doors_____
Other Buildings_____
Electric Controls_____

NPN-5-37

OVERHEAD DOOR CORPORATION • HARTFORD CITY, INDIANA U.S.A.



The sun had just ducked behind the clouds when the photographer snapped this picture of the service station operated by Stanton Bros., at the lower Wisconsin Dells. Gallonage at this station shows a 78% increase since taking on Phillips 66, as against the previous figures for another nationally advertised brand of gasoline.

This Issue of National Petroleum News Is Not Big Enough For Our Story

FROM old Phillips jobbers, and from new, success stories have been pouring in at an extremely rapid rate. Day after day, Phillips' mail brings batches of photographs of stations and operators, brings detailed figures of sales experiences before and after taking on Phillips 66.

At this moment, even if we printed a different success story on each and every page of this issue of the NATIONAL PETROLEUM NEWS, beginning at the front cover and going right on through to the back page, we would still have stories left over to be printed in a following issue.

Please remember that these success stories had their beginning at a time when business was tough and competition was rough. At a time when every motorist had economy foremost in his mind. Obviously Phillips 66 must have given exceptional value to keep climbing higher and higher throughout the Depression.

Today, thanks to able distributors and dealers, thanks to wise and thrifty motorists, Phillips is one of the largest *Independents* in the entire industry. And as an Independent, Phillips has rolled up a remarkable record of pioneering.

Phillips was *first* to match gasoline to weather. *First* to offer high test gasoline at the price of ordinary motor fuel. *First* to offer at all its stations the extra-powered gasoline resulting from the patented POLYmerization process.

Phillips sales figures are still headed sharply upwards, because consumer acceptance of Phillips quality and greater-value-for-the-money is growing greater every day.

How To Increase Your Volume

First, you may want to know about Phillips' reputation as a *friendly* organization. In that case, we suggest that you write Mr. I. C. Turner, Secretary and Treasurer of the Baraboo Oil Co., Inc., Baraboo, Wisconsin. The station shown above is one of his accounts, and his letter says: "We will be glad to tell any prospective jobber of our wonderful experience since we started with the big family of Phillips 66."

So, if you would like to multiply your profits by increasing your volume . . . if you would like to ride along with a winner . . . make a start at getting on the band-wagon by writing today for the Phillips Selling Plan. No obligation, of course. Write, wire, or phone

PHILLIPS PETROLEUM CO.

Bartlesville, Oklahoma

Chicago Minneapolis Peoria
Indianapolis Des Moines
Omaha St. Louis Kansas City
Wichita Tulsa Amarillo

Third Grade Sales Yield To Better Grades in 1936

By M. G. VAN VOORHIS
N. P. N. Staff Writer

SALES of regular and premium grades gasoline continued to gain favor over third grade in the middle west in 1936, it is apparent from an analysis of sales data supplied by seven integrated companies in the Mid-Continent. The results are based upon an annual sales average close to 900,000,000 gallons which represents four to five per cent of the country's total annual demand.

Regular grade sales percentage jumped from 75.2 in 1934 to 80.9 in 1935 and to 82.7 in 1936 while the third grade sales percentage dropped from 22.6 to 16.8 and to 14.5 in the corresponding years.

The significant gain in premium gasoline sales is not evident in the slight gains in percentage of total sales. This gain was from 2.24 per cent in 1934 to 2.31 in 1935 and to 2.73 in 1936. The gain in premium grade sales percentage in 1936 over 1935 was 18 per cent as compared with only 2 per cent for regular grade.

The gain in actual sales by the seven companies appears from the figures to be nearly 35 per cent but probably should be closer to 30 per cent, in consideration of a new basis of compiling statistics by one of the co-operating companies. This is borne out by the gain in demand of all motor fuel determined from Bureau of Mines figures.

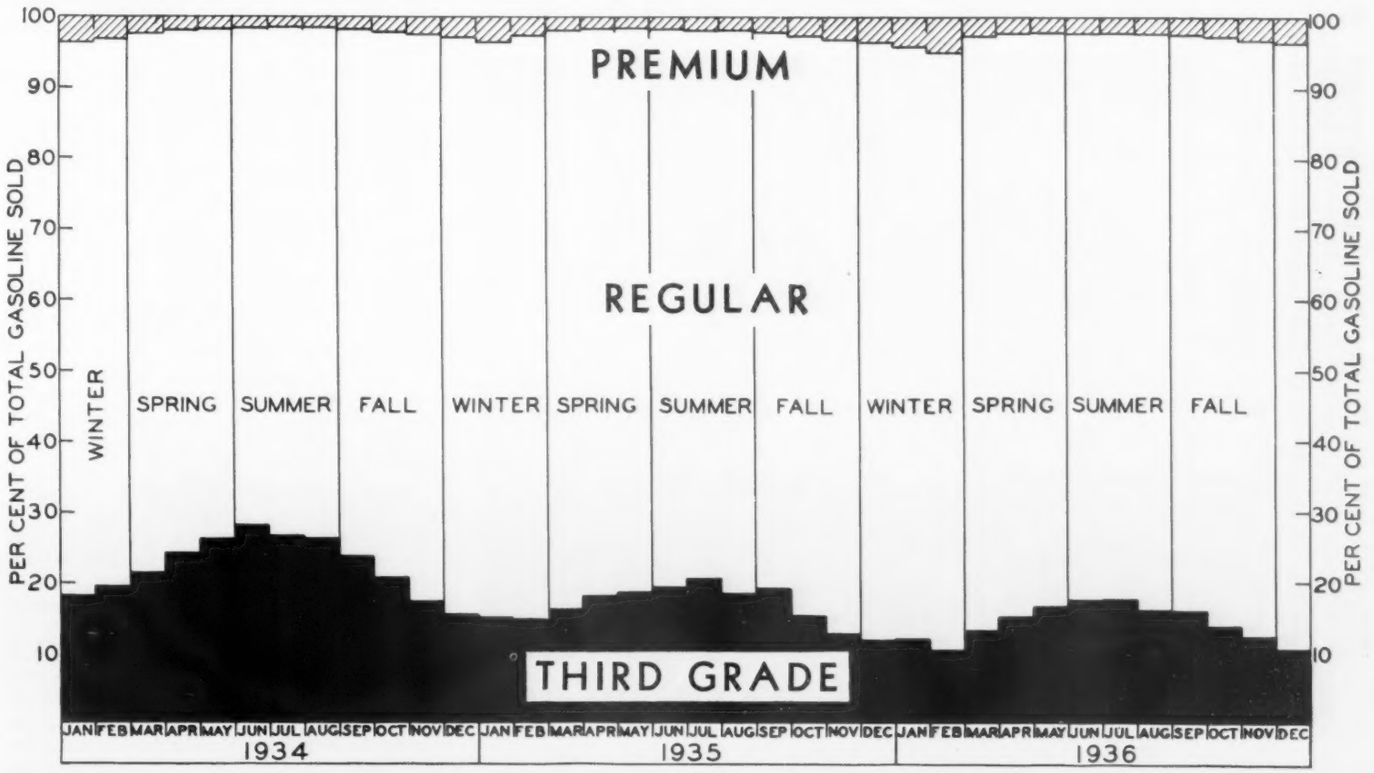
The turn in sales of premium gasoline came in July, 1935. Before that month the percentage of premium gasoline was lower each month than in the corresponding month the year before. Since July, 1935, the percentage of premium gasoline sales has been larger in all except two months when compared with the corresponding month the year before. This situation is best shown in the accompanying tabulation of percentages of the sale of all three grades of motor fuel.

A regular summer hump season in third grade sales percentages is evident on the accompanying chart but in 1936 the peak was only 17.7 per cent as compared with 20.5 in 1935 and 28.1 in 1934. The latter figure is very close to the highest mark third grade gasoline ever made. The low points on the curve are declining also. The unusually cold month of February 1936 brought the percentage down to 10.4 and chart indications are that February of this year may have been still lower.

In the first quarter of 1936 third grade sales were 12.0 per cent of the total compared with 15.4 in 1935. Second quarter third grade sales were 16.5 per cent

Per Cent of Total Sales of Each Grade of Gasoline Offered by Seven Mid-Continent Companies

	Premium			Regular			Third Grade		
	1934	1935	1936	1934	1935	1936	1934	1935	1936
Jan.	3.78	3.56	4.07	78.0	81.4	83.9	18.3	15.0	12.0
Feb.	3.28	2.62	4.99	77.2	82.6	84.6	19.5	14.8	10.4
March	2.50	1.93	2.53	76.0	81.9	84.3	21.5	16.2	13.2
April	2.04	1.64	2.24	73.7	80.2	82.6	24.3	18.1	15.1
May	1.83	1.56	2.10	71.9	79.9	81.3	26.2	18.6	16.6
June	1.67	1.62	2.24	70.2	79.0	80.2	28.1	19.4	17.6
July	1.60	1.94	2.12	71.7	77.6	80.2	26.7	20.5	17.7
Aug.	1.61	1.90	2.29	72.2	79.7	81.5	26.2	18.4	16.2
Sept.	1.80	2.08	2.35	74.4	78.7	81.6	23.8	19.2	16.1
Oct.	2.12	2.65	2.61	77.2	82.1	83.5	20.7	15.3	13.9
Nov.	2.50	3.07	3.15	80.1	84.2	85.5	17.4	12.7	11.4
Dec.	2.92	3.52	3.49	81.6	84.6	85.9	15.5	11.9	10.6



Analysis of gasoline sales of seven large Mid-Continent refiner-marketers

compared with 18.7 the previous year. Third quarter sales were 16.6 per cent of the total compared with 19.4 per cent in 1935, and fourth quarter sales dropped from 13.4 to 12.0 per cent of total sales. The accompanying table indicates declines in third grade sales percentage every month of the year in the past two years and corresponding rising percentages of regular grade gasoline.

The big season for premium grade gasoline is the dull season by third grade and vice versa. The highest percentage reached by premium gasoline in the three years shown on the chart was during February 1936. This was 5 per cent. The fact that December 1936 percentage was the same as the previous December indicates a possibility of repetition this year. Premium sales percentages in no way compare with 1931 and early 1932 when 20 per cent was the rule. Present levels were reached before the middle of 1933.

Leading month for a high percentage of regular grade is December, three-year statistics show. November is next high but the winter season as a whole is the period during which regular grade percentage is highest.

Figures on total volume of sales of the seven co-operating companies in the last 15 months are not entirely comparable with earlier figures as a result of a change in the method of reporting. Comparing the last quarter of 1936 and 1935, total gasoline sales were 244,868,000 gallons for 1936 and 223,045,000 gallons for 1935, an increase of 9.8 per cent. This compares with an 11.1 per cent increase for the U. S. Regular grade gasoline sales were 84.9 per cent of the 1936 gallonage and 83.6 per cent of the figure for 1935. The last quarter totals of regular grade gasoline for the two years were 207,997,000 gallons in 1936 and 186,439,000 gallons in 1935.

Third grade sales dropped from 29,793,000 gallons in the last quarter of 1935 to 29,361,000 gallons in the last quarter of 1936 in spite of the nearly 22,000,000-gallon gain in total sales for the quarter.

Premium grade sales were 6,814,000 gallons in the last quarter of 1935 and 7,511,000 gallons in the corresponding period of 1936. There was practically no change in percentage of sales.

FEDERAL AID

Puts Diesels in More Extensive Use

NEW fields for the diesel engine and expansion of fields in which it already has proven itself, are seen in recent activities of several government agencies.

The Rural Electrification Administration has allotted funds for a score or more of diesel generating plants for groups of farmers in various parts of the country who are establishing their own facilities to bring electricity to the farm, unable to get it otherwise. Diesel plants are most economical for this type of service, according to REA.

Groups of farmers, who have erected their own power lines with federal money, are connecting up with privately-owned electrical utilities, calling into use more diesel equipment, both for "stand by" and regular-load purposes.

Portable diesel-powered generating units offer new rural electric lines an inexpensive source of energy for temporary loads, pending permanent arrangements for wholesale current, either with private utilities or supplies from government hydroelectric projects, the electrification administration also points out.

Outside the field of rural electrification, these portable generating plants have come more and more into general use, both for emergency and permanent load purposes. Circuses and carnivals have found them valuable and, during the recent Ohio flood, a great many units were installed by utilities and by individual industrial and commercial plants to provide emergency service.

Already REA has made one allotment for such a portable plant to the Blachly (Ore.) Power Project, which is designed to be energized later from Bonneville dam, 170 miles away, and others are being considered.

EXPLAINING the economy of one of these portable plants when used temporarily by a rural electrification group, the Rural Electrification Administration says:

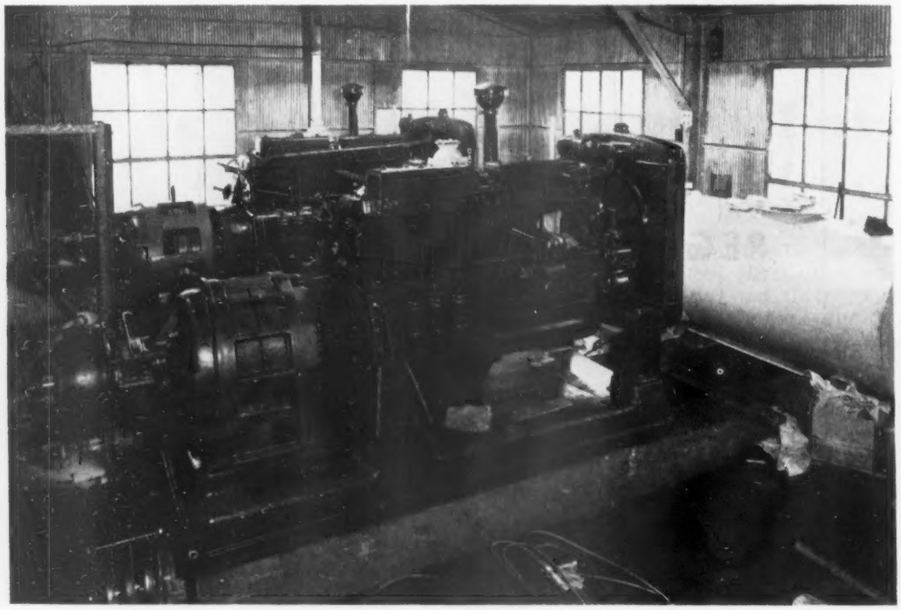
"When the portable plant has served its purpose—when arrangements for a permanent power source have been completed—the plant can be resold to some other group newly faced with an emergency wholesale energy situation.

"The capital cost can be salvaged almost completely, and REA, with its nation-wide knowledge of similar conditions, will be in a position to serve as a clearing-house for their transfer. The cost of a plant is only about $10,000, and the operating cost is not great.

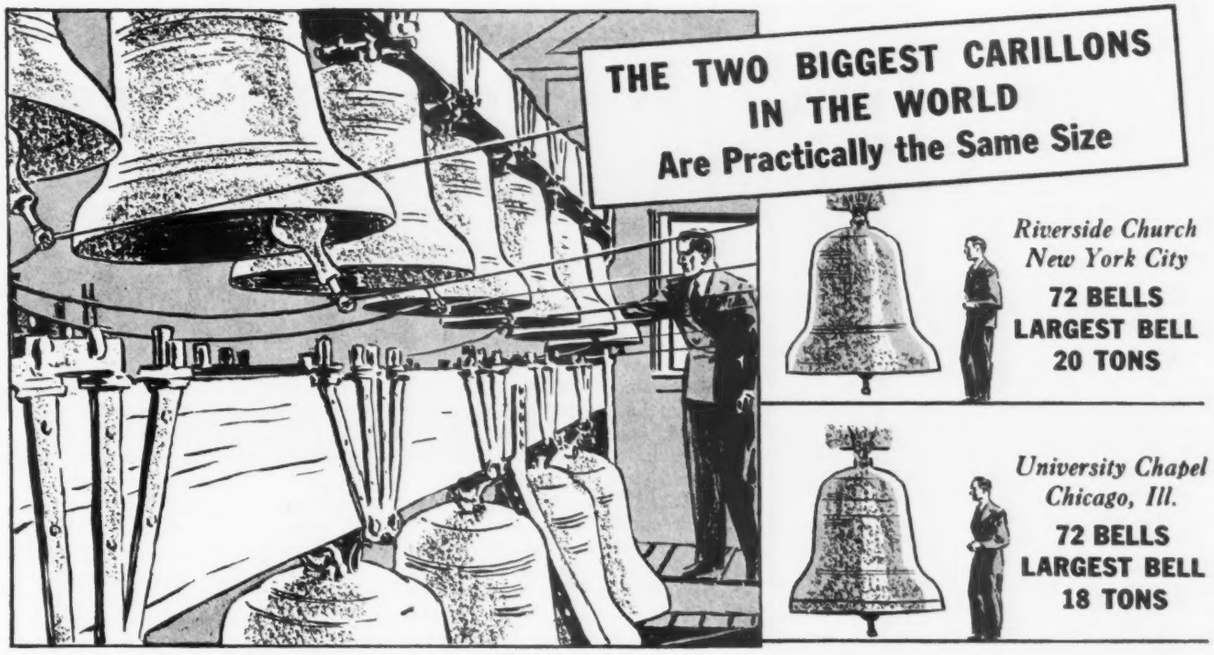
"They can be shipped by freight to the nearest rail point, and then drawn by a hauling company or a farmer's tractor to the load-center of the distribution system."

Another governmental agency turning in the direction of diesel power is the Navy, which has under construction several new types of diesel engines, which officials expect will enable supply and auxiliary ships to keep up with its speedy dreadnaughts.

Tests of the new engines are expected to take place this summer. The engines also may find a field for application in the merchant marine, whose speeding up so as to serve as a valuable adjunct to the Navy in time of war is important to Navy officials.



Diesel engines were used during the Ohio River flood this winter to supply temporary power to plants and factories cut off from regular service. Two 60 KW generators powered by Caterpillar Tractor diesels were hastily installed and connected to plant wiring in the factory of Tube Turns, Inc., at Louisville, Ky., restoring power service and providing employment for the company's workers immediately and also supplying lights for 2500 refugees, temporarily housed in the company's warehouse



...but the *second* biggest magazine is only *half* as big as the

WORLD'S BIGGEST MAGAZINE

THE WORLD'S two biggest carillons are so nearly identical in size that the weights of the largest bells are used to establish the slight difference between them. But when it comes to magazines no such fine distinctions are necessary. For the world's biggest magazine—The American Weekly—is *twice* as big as its nearest competitor. And that means twice as many *millions* of circulation!

Each week The American Weekly reaches nearly 6,000,000 families, comprising approximately 24,000,000 people—by far the greatest mass coverage of any publication in the world. Moreover, 87% of this vast circulation is concentrated in the 624 counties where 68% of the nation's families live and where 80% of *all* retail sales are made. In these counties are located *all* cities of 10,000 or more population, in most of which The American Weekly is read regularly in from 1 ou of 5 to 1 out of every . homes.

NEARLY 6,000,000 CIRCULATION — NEAREST COMPETITOR CIRCULATION

When manufacturers and refiners advertise in The American Weekly they give stations the benefit of the most powerful sales-producing force at their command—a force reaching the most *buying families* in the greatest number of places. It pays to feature products that have this support.

What The American Weekly is

The American Weekly is the largest magazine in the world. It is distributed through the 17 great Hearst Sunday newspapers. In 627 of America's 995 towns and cities of 10,000 population and over, The American Weekly concentrates 67% of its circulation.

In each of 174 cities, it reaches better than one out of every two families
In 144 more cities, 40 to 50% of the families
In an additional 134 cities, 30 to 40%
In another 175 cities, 20 to 30%

. . . and, in addition, more than 2,000,000 families in thousands of other communities, large and small, regularly buy and read The American Weekly.

Greatest Circulation in the World

THE AMERICAN WEEKLY

"The National Magazine with Local Influence"

Main Office: 959 Eighth Avenue, New York City

Co-operation Urged Between Burner And Fuel Oil Industries

MADISON, Wis.

CLOSE co-operation between the fuel oil distributors of this country, and the automatic heat and air conditioning industries, was held to be not only justified, but positively essential, by Frank E. Spencer, president of the Spencer Petroleum Co., Chicago, in an address before the Conference on Air Conditioning and Automatic Heating sponsored by the University of Wisconsin, at Madison, April 21, 22, and 23.

Spencer pointed to the rapid growth of oil burner sales in this country during the last few years, and to the new importance placed on fuel oil by major oil company executives. He said that, five years ago, the word fuel oil would have been hard to find in the annual report of any large oil company, but today "there is perhaps not an executive or board of directors in any large oil company that has not pondered long and seriously in their deliberations on the subject of fuel oil, and its probable relative importance to other petroleum products over the next five or ten years."

Spencer expressed the belief that, as the demand for fuel oil becomes better charted and understood, the refining industry will be equally efficient in supplying adequate fuel oils of proper specifications to meet all demands, and at prices well within the reach of the consumer.

Spencer gave six suggestions of specific ways in which fuel oil distributors can and should co-operate with the automatic heating industry.

"First—They should recognize the need of the automatic heating industry for fuel oils, so carefully refined, and handled from refinery to the storage tank of consumer, that a minimum amount of complaints or criticisms will emanate from the consumer because of unsatisfactory burner performance. To me this duty on the part of the refiner and its agents or distributors is of the first and utmost importance.

"Second—Fuel oil distributors must not be content merely to allow oil burner manufacturers or dealers to bear the entire brunt of developing new oil burner business which they, the distributors, can use to develop their fuel oil volume, after the expense and work of new installations has been shouldered by the manufacturers, and dealers of oil burners.

"In other words, fuel oil distributors should consider it their duty and privilege to increase, as quickly and definitely as possible, the favorable acceptance and consequent increased demand for the use of oil for heating or air conditioning purposes, which if accomplished, will automatically create the desired need for the products that the automatic heating and air conditioning industries desire and deserve.

"Third—Each and every fuel oil distributor should charge himself with the responsibility of doing something constructive, pointing towards added interest in, and acceptance of the use of oil, which under present conditions includes and practically demands automatic appliances of all varieties, regardless of whether heating or air conditioning is involved.

"Fourth—Some fuel oil distributors have chosen to handle oil burners, oil burner units, and even air conditioning equipment in conjunction with their oil business. This practice is considerably more general than it was four or five years ago, and whether this trend will increase or diminish will doubtless depend upon how successful, from a dollar and cents standpoint, these distributors are in combining under one organization the job of merchandising both fuel oil, and equipment and appliances utilized in its use.

"Unquestionably the activities on the part of those who are combining the two jobs will create some interest, and develop some sales of automatic heating equipment that otherwise might not be made in the near future, if at all. Therefore, no one could fairly charge that these activities have been, or are entirely pointless, or without justification. At least to the manufacturer of automatic heating products, activities of this character are more than welcome. This is especially true because many organizations so handling the situation are better equipped financially, and with personnel, to do an effective sales job than are some manufacturers, dealers or agents who do not have other adequate supporting or sustaining businesses to enable them to promote the sale of automatic heating products effectively and successfully.

"Fifth—Other distributors of fuel oil, for what they consider good and sufficient reasons, do not choose to sell either oil burners or air conditioning equipment in competition with either the manufacturers of those products, or their dealers and agents. These distributors, or at least some of them, however, are fully cognizant and appreciative of the importance of the increasing interest in, and purchase of new and replacement automatic heating products in order to maintain and increase their own volume of fuel oil deliveries.

"These distributors should, and I believe now more than ever before, do cooperate through the means of developing leads wherever possible to turn over as potential sales to the more responsible concerns handling oil burners, or air conditioning units exclusively, or at least handling them without any open or undercover fuel oil tie-ups or allegiances. There are apparently many responsible organizations both in the tank wagon fuel oil business, and in the oil burner and air conditioning industry who have no desire, and apparently no intention of doing other than sticking to what they consider their own specific knitting, and allowing, but helping constructively, their sister industry to develop its respective business.

"Sixth—To me the most logical and most effective type of co-operation that could ever be provided for the automatic heating industry by the fuel oil distributing industry should be found in co-operative advertising.

"It is my profound belief that fuel oil distributing industry has its greatest opportunity in, and will ultimately attain its greatest possibilities if in some manner a co-operative advertising campaign, not only local but national, is agreed upon and put into effect."

Spencer pointed out that the possibilities of development of the two industries are "practically unlimited," but that this development may be seriously retarded if the two industries, either within or between themselves, do not develop local and national co-operative advertising campaigns.

Spencer went to considerable length to rebuke the oil industry for the lack of co-operation in the past within its own ranks. He remarked that he has been impressed with the fact that people in the oil business as a class, and under ordinary conditions, do not do a very good job of co-operating with each other.

As a reason for this lack of co-operation, Spencer said that it may be due to the comparative newness of the oil industry and its rapid and sporadic growth. Enlarging upon this point of co-operation within the oil industry, Spencer commented:

"When one considers the subject of 'co-operation' between oil companies themselves, I will admit that it is difficult at times to discover that very thing in the ordinary and true acceptance of the word. The general attitude of one large oil company, as compared with another large oil company, is usually one of either indifference or, if I may use the word, disrespect, even at times bordering upon

Be prepared to be the **FIRST** *to serve*

INDUSTRY COMMERCE OR RESIDENCES

with a complete and Internationally Recognized Line of Oil Burners, oil fired boiler burner units and air conditioning equipment using from the lightest to the heaviest fuel oils.

Established in 1904, S. T. Johnson Co. is one of the oldest exclusive manufacturers of oil burning equipment in the country, and is today one of the first of the larger oil burner manufacturers to introduce a complete line to serve all types of industry, commerce and residences with required heat or power.

Don't miss the opportunity of quoting on all types of installations because of lack of proper equipment in correct sizes. Data sheets on each type of Johnson Improved Burners giving complete information are available for your consideration and your prospects... with full cooperation of the Johnson Engineering Department.

MEMBER OBI OIL BURNER INSTITUTE

● Worthwhile territories and Johnson franchises are available now to aggressive dealers anxious to serve their communities. Write today giving full details as to your qualifications.

S. T. JOHNSON CO.

Oakland, Calif. *and* Philadelphia, Pa.

940 Arlington 401 N. Broad St.

JOHNSON OIL BURNERS©

Selectair—a split system air conditioning unit—oil fired by the Johnson Pressure Type "Bankheat" Burner.

The compact "Bankheat" Burner

"Laddi"—an oil fired combination boiler-burner unit furnishing heat or domestic hot water or both in combination.

Manual or Semi-Automatic Heavy Duty Rotary Industrial Oil Burner Type No. 28. This burner and the fully automatic burners can be equipped with special fire hole plate for burning either gas or oil.

Heavy Duty Rotary Type Fully Automatic Burner 30AVH equipped with Johnson viscosity control valve Low Fire Starting and Modulated Firing and oil preheater, making possible the efficient and economical use of No. 6 fuel oil.

● JOHNSON BUILT OIL BURNERS—low pressure air and steam atomizers, manual and semi-automatic rotary type burners, fully automatic rotary type with low fire start and modulating firing accessories, combination oil and gas burners, pressure type burners, boiler burner units furnishing steam or hot water with domestic hot water and residential air conditioning equipment.

Happy Motoring

ESSO STATION

NOT CONNECTED
With
Standard Oil Company
(Indiana)

Supplies and services are available at the Esso signs identifying thousands of American and foreign filling stations, selling motor fuels and lubricants from the world's largest refineries and most extensive petroleum research and development laboratories

ESSO, INC.
26 Broadway, New York

The word ESSO is "A sign of service and a symbol of quality"

ESSO—for Premium Motor Fuel ESSO MOTOR OIL—for Premium Motor Oil
ESSOLENE—for Regular Motor Fuel ESSOLUBE—for Regular Motor Oil

BETTENDORF DOUBLE HEAT

★ The BETTENDORF DOUBLE HEAT WAY OF AUTOMATIC HOME HEATING is rapidly gaining recognition as the ideal way. Why? Because Bettendorf Double Heat Oil Burners represent the utmost in engineering skill. That is why Bettendorf is accepted as the standard by which all efficient, dependable home-heating is gauged.

★ Write for our liberal offer today. Have a Bettendorf Double Heat Oil Burner on display. Be in position to cash in on Bettendorf popularity.

★

MICRO-WESTCO, INC.,
90 West St., New York City
332 So. Michigan Ave., Chicago

BETTENDORF, IOWA
224 State St., Boston
1420 Chestnut St., Philadelphia

BETTENDORF
OIL BURNERS

contempt. Too frequently, oil companies themselves are willing to sacrifice entirely too much, in order to acquire a piece of business from a competitor who at times perchance may even be in a more strategic position to serve the customer in question, than is the oil company just about to gain the new account.

"Because of the highly competitive features involved in the relationships between the larger factors in the oil industry, a minimum of constructive co-operation between the various competing oil organizations has been developed through any and all means involved. As a matter of fact, so far as the sale of the bulk of the products manufactured by the typical well organized oil company is concerned, there may not be, or at least as yet there has not seemed to have been a large opportunity for so called 'co-operation' that could be worked out without possible criticism on the part of state or federal authorities who, as you all well know are inclined to discourage and frown upon 'co-operation,' if it can be interpreted in the eyes of the law as being something that, upon close or strict analysis, borders upon 'price fixing' or 'market rigging.' However, if our leading oil companies with their respective, diversified, and far reaching interests could for the most part lay aside their rather natural jealousies of one another, and one another's progress, many constructive economic adjustments could be made that would either increase earnings for the companies involved, or reduce costs to the consuming public without having interfered materially with individual company earnings."

Spencer expressed the belief that the comparatively little industry team work within the oil business, from the standpoint of the public's interest, is partially a result of the fact that the large oil companies have not found a way to co-operate with each other without interfering with their own respective interests.

"For all practical purposes they are all after the same pieces of business," said Spencer, "and they have substantially the same story to tell, with very little distinguishable between products so far as the average consumer is concerned."

The conference program included addresses on all forms of automatic heating and air conditioning. The afternoon session of the first day was devoted to coal stokers. On the second day, gas was the topic of discussion, and on the third day oil heating was featured.

J. W. Manny, president of the Chicago Oil Burner Assn., spoke on the subject "Why Sell Oil Burners?" at the afternoon meeting April 23.

Study Tractor Facts

ST. JOSEPH, Mich., April 30.—A proposal for standardization of farm tractor fuels will be presented at the annual meeting of the American Society of Agricultural Engineers June 21 to 24, at the University of Illinois. The Power and Machinery Division, in one of its sessions, June 22, will center upon the farm tractor fuel problems, the subject being approached both from the standpoint of the user and the refiner.

TRADEMARKS

The following are trademark applications pertinent to our field pending in the United States Patent office which have been passed for publication and are in line for early registration unless opposition is filed promptly. For further information address National Trade-Mark Company, Munsey Building, Washington, D. C., trademark specialists.

As an additional service feature to its readers, this journal gladly offers to them an advance search free of charge on any mark they may contemplate adopting or registering. You may communicate with the Editor of this Department, or send your inquiry direct to the National Trade-Mark Company, stating that you are a reader of this journal.

Pub. March 23, 1937

GOOD YEAR, picture of shoe with wings, Ser. No. 386,859. The Goodyear Tire & Rubber Company, Akron, Ohio. Filed Dec. 17, 1936.

For Anti-Freeze Solution.

SUR-FLO, Ser. No. 387,877. Refiners Lubricating Company, Inc., New York, N. Y. Filed Jan. 16, 1937.

For Anti-Freeze Solution.

FILMCOL, Ser. No. 387,918. Pacific Distillers, Inc., Culver City, Calif. Filed Jan. 18, 1937.

For Denatured Alcohol.

ESSOPHALT, Ser. No. 387,758. Standard Oil Company of New Jersey, Wilmington, Del. Filed Jan. 13, 1937.

For Asphalt.

FLAZ/POL, in a diamond shaped figure, Ser. No. 387,284. The Mid-Kent Products Co., Larkfield, England. Filed Dec. 30, 1936.

For Polish, for Motor-Cars, Furniture, and Finished Wood Surfaces.

MELPAK, Ser. No. 385,480. Charles A. Green, Philadelphia, Pa. Filed Nov. 13, 1936.

For Lubricating Grease Dispensing Apparatus Whereby Lubricants May be Dispensed Under Pressure.

Picture of a Puritan, Ser. No. 387,920. Puritan Soap Company, Rochester, N. Y. Filed Jan. 18, 1937.

For Fluid Mixture for Use in Hydraulic Brake Systems and a Liquefied Mixture for Stopping Leaks in Automobile Radiators and Similar Uses.

HI-DI, Ser. No. 373,073. Derris, Inc., New York, N. Y. Filed Dec. 26, 1935.

For Insecticides.

TIP TOP, PENN (Penn disclaimed) Ser. No. 387,095. Valvoline Oil Company, Cincinnati, Ohio, and New York, N. Y. Filed Dec. 23, 1936.

For Lubricating Oils and Greases.

Picture of a puritan, Ser. No. 387,922. Puritan Soap Company, Rochester, N. Y. Filed Jan. 18, 1937.

For Oil for Use in Shock Absorbers for Automobiles.

PETROLEX, Ser. No. 388,208. Tide Water Associated Oil Company, Wilmington, Del., and New York, N. Y. Filed Jan. 26, 1937.

For Gasoline, Lubricating Oils, and Greases.

SULROTE, Ser. No. 387,913. Mechling Brothers Chemical Company, Camden, N. J. Filed Jan. 18, 1937.

For Insecticides.

BLACK FLAG, Ser. No. 388,118. The Black Flag Company, Baltimore, Md. Filed Jan. 25, 1937.

For Insecticides.

Money Making Franchises Like These Still Open!

Two jobbers quoted below give the best reason in the world for handling popular brand Freedom Oils . . . they make money at it! The coupon or a letter will bring you full details on an exclusive franchise for one of the four big sellers of the Freedom line. Freedom Oils are made from highest quality 100% Pure Pennsylvania Grade Crude. They are specially solvent processed and are packaged in snappy, eye-catching, colorful, lithographed cans for quick retailing. Here's what two enthusiastic jobbers have to say:

50% to 75% INCREASE!

"We show a definite increase of between 50 and 75 per cent this year primarily due to contacting service men and asking them to try Penn Trump Oil in their cars.

"After we have definitely proved the quality through their use of it, we have been able to get the product in and get repeat business."

B. K. Sweeney Elec. Co.,
Denver, Colorado

BEST DISTRIBUTION EVER!

"We spent eight months investigating to find the best oil that could be had in the Pennsylvania field . . .

"In every instance where we have sold Beaver-Penn Oil, it has repeated and we now have the best distribution of any Pennsylvania Oil ever handled.

"All our dealers are very enthusiastic in their praise of Beaver-Penn and their sales are *increasing daily* . . ."

Consumers Co-operatives
Associated,
Amarillo, Texas

4 FINE OILS!

. . . that stand toe to toe with the best. There simply isn't anything better.

THE COUPON—SEND IT!

THE FREEDOM OIL WORKS CO.
121 Third Street, Freedom, Pa.
Gentlemen: Send me particulars about new Freedom Solvent Processed Oils.

Name .....
Address .....
City .....

FREEDOM

THE FREEDOM OIL WORKS CO.
121 THIRD STREET · FREEDOM PA.

Pacific Coast Bulk Plant and Warehouse: Los Angeles, California

Multi-Metered Lube Oil Truck Saves Two Hours A Day

BUCKETING 1600 gallons of lubricating oil a day from truck to station high boys presents a two-fold transportation problem. First, it demands an excessive amount of physical exertion on the part of the driver. Second, it results in a high delivery cost because of the time lost when the truck is making a delivery at a station.

Principally on account of these two problems, the White Star Division of the Socony-Vacuum Oil Co., Inc., Detroit, set out six months ago to build a unit to overcome these inefficiencies.

The result is a five-compartment, 1600-gallon, tank truck, completely equipped with three meters and three pumps, so that the lubricating oil can be pumped direct from the truck tank compartment to the high boy, thus reducing both the manual labor required for the driver and the time required to make a delivery.

As a result of the "motorizing" and "metering," this truck, which delivers only lubricating oils, is able to deliver 1600 gallons of oil in eight hours, whereas a truck of similar size, but without the meters and pumps, required 10 hours to make the same delivery.

The tank, which is made of high tensile steel, is fully skirted and streamlined, with a beaver tail construction at the rear. A 3-ton truck chassis is used.

Three 1.5-inch meters are used on the truck, each being located on the right side in its own compartment and with its own self-winding hose reel. Each hose reel is equipped with 30 feet of hose, with 1¼-inch self-closing valves on the hose ends.

The meters, which are of the predetermining type, are so arranged by a manifold that any meter can record the delivery from any tank compartment. Three-inch lines, with free-flowing bends, lead from the compartments to the header on the meter side of the truck. The header is 1.5 inches in diameter.

The first meter, that is the one nearest the cab, is hooked into the header in front of the point at which the line from the first compartment connects with the header. The second meter is connected to the header between the second and third compartment entry lines; and the third meter hooks in between the fourth and fifth compartment lines.

This arrangement makes it possible to split the delivery three ways. The first meter can record the delivery from the first and second compartments. The second meter can handle the second, third and fourth compartments; and the third meter can handle the third, fourth and fifth compartments. Or, as was stated above, any meter can handle any one compartment at a time.

The pumps and air eliminators are located on the opposite side of the truck in a similar position to the meters. The three pumps, which deliver 30 gallons per minute each, operate from a common drive shaft off the transmission. Clutch levers located on the meter side of the truck engage or release the pumps which it is desired to operate.

In addition to the meter delivery through the hose reel, the piping is so arranged that compartments may be dumped through the faucets at the rear of the truck in the conventional manner.

This truck covers a radius of approximately 14 miles of the company's bulk plant in Detroit.

This 1600-gallon lube oil truck, equipped with three meters and three pumps, delivers a full load in eight hours. The unit is operated by Socony-Vacuum's White Star division in Detroit

New England Trucker Fixes Costs On Per Hour and Per Mile Basis

NEW light was thrown on the question of determining accurate trucking costs at the recent convention of the New England Oil Men's Assn. at Boston, when H. B. Church, treasurer of the H. B. Church Truck Service Co., also of Boston, explained his company's method of cost keeping.

Church's company separates costs into two groups, one of which is variable charges and the other fixed charges. Under the first grouping, to which he refers as running expense, are such items of cost as gasoline and oil, tires, and all items of maintenance. An accurate record is also kept of miles operated, so that a determination can be made of running expense per mile.

In his paper, Church explained that all other items of expense, such as drivers' wages, insurance, registration, garaging and general overhead, come under fixed charges. This total fixed charge is divided by the number of hours the trucks actually work during the period, which gives a figure for fixed expense per hour.

Church said that the item of depreciation can be placed either under variable or fixed charges, but for the year 1936 his company divided this item, placing half the amount charged off for depreciation into the variable account, and half into the fixed account.

According to Church, depreciation of motor transport equipment is a subject on which there is a wide difference of opinion as to the method of handling. He stated that there are two main elements involved. One is the question of obsolescence, which item, of course, should be placed in the fixed charges; and the other is the question of "wear-out," which should be placed under the variable charge, since the more miles the unit is operated, the greater will be the "wear-out" factor.

In Church's opinion, one school of thought would place the entire depreciation on a basis of cost per hour, while the other would use the cost per mile as a basis. He then explained that in his company's election to adopt a 50-50 plan

Stop worrying about business, Mr. Goodwin. Let CITIES SERVICE help solve your problems with its proved sales plan...It has worked in thousands of cases.

HUNDREDS OF DEALERS SWITCH TO CITIES SERVICE IN LAST FEW MONTHS

GET ON the Cities Service dealer bandwagon that's headed straight to increased business and profits. Hundreds of new dealers have switched to Cities Service since the first of the year because Cities Service has offered them the industry's most unusual sales plan... a proved sales plan that is producing extra profits for dealers everywhere.

No other oil company offers the complete, distinctive plan Cities Service offers its dealers. It is a plan that will make you the most-talked-of dealer in your neighborhood... a plan backed by a record of proved success.

Ask to see this plan, which is explained in full in the Cities Service PROFIT ImPROVER. Write, wire or phone today to the Cities Service marketing company nearest you. Don't struggle hopelessly with your problems. Let Cities Service experts help you solve them, as they have for so many others. Act today.

MAIL THIS COUPON TODAY!

CITIES SERVICE
Room 732, 60 Wall Street, New York City

Gentlemen: Without obligation on my part, please send representative to show me the plan outlined in your PROFIT ImPROVER.

*Name*_____

*Address*_____

*City and State*_____

CITIES SERVICE OIL CO. Chicago, Ill.
CITIES SERVICE OIL CO. Milwaukee, Wis.
CITIES SERVICE OIL CO. Boston, Mass.
EMPIRE OIL & REFINING CO. Tulsa, Okla.
CITIES SERVICE OIL CO. Detroit, Mich.
CITIES SERVICE OIL CO. Cleveland, Ohio
CITIES SERVICE OIL CO. New York, N. Y.
CITIES SERVICE OIL CO. Kingston, N. Y.
CITIES SERVICE OIL CO., LTD., Toronto, Ont., Canada
ARKANSAS FUEL OIL COMPANY, Shreveport, La.

RADIO CONCERTS . . . *every Friday at 8 P. M. (E.D.T.) WEAF and 43 associated N. B. C. stations*

CITIES SERVICE OILS AND GASOLENES

on depreciation cost, it is catering to both schools and perhaps satisfying neither, but at least, according to Church, whatever error there is, it is reduced under the 50-50 method.

At this point Church explained his cost keeping method by means of an example, as follows:

"Having obtained the cost per hour of the fixed charge and the cost per mile of the variable charge, it is a simple matter to arrive at the cost of any specific haul. For example: Take a 3300 gallon transport and assuming that the cost per hour is $2 and the cost per mile is $.10 and that the length of the haul is 15 miles, we must first estimate the amount of time involved in the movement.

"We shall assume that there is three-fourths of an hour for loading and three-fourths for unloading, making a total standing time of 1.5 hours and also that the truck makes a speed of 20 miles per hour which would make 1.5 hours for the 30-mile round trip. This gives us a total time of 3 hours, which time at a cost of $2 per hour makes a fixed charge of $6 for the 3 hours. We add to this the running expense of $.10 per mile for 30 miles, or $3, giving us a total of $9 for both fixed and variable charges for the round trip. We then divide the $9 by the 3300 gallons and we have a cost of $.0027, or in other words, a little over a quarter of a cent per gallon.

"Now, in applying this cost to a 50-mile haul, and assuming that the truck makes an average speed of 33 miles per hour, which is admittedly a high estimate, we would have a total time, including loading and unloading, of 4.5 hours at $2 an hour, or $9. One hundred miles for the round trip at $.10 a mile gives us $10, making a total of $19 and dividing $19 by the 3300 gallons, we have in round numbers .0060 or six-tenths of a cent per gallon.

"I believe the above method to be the most accurate means of arriving at the cost of transportation but it does not take into account one factor which will vary the result greatly and that is that the more hours per day a truck can be worked, the lower the fixed cost per hour will be.

"If the cost of the year 1936 is used as a basis for making a rate for 1937, and if the truck averaged to operate eight hours a day in 1936, the rate for 1937 will be correct provided the truck will be worked substantially the same hours per day during 1937. On the other hand, if additional work can be found which will lengthen the time of operation, the costs will be reduced.

"I was recently shown cost figures by a representative of a major company, which were based on an average cost per mile for operating a big transport. The error of this method can be readily seen from the two examples given you as to the cost of the 15 mile haul and the 50 mile haul. In the first case, we had a total cost of $9 and a round trip of 30 miles which would give us a cost of $.30 per truck mile. In the second case, we had a total cost of $19 for a total of 100 miles giving us a cost of $.19 per truck mile. Assuming that the major company found that at the end of the year, after dividing the total costs by the miles operated, an average cost per mile of $.25, it can be seen that it would be wrong to apply this cost to either of these two hauls. As an extreme illustration, supposing the haul was only one mile, can this round trip of two miles be made at a cost of $.50? It is absurd on the face of it!"

Newest Shell Tank Truck Is Ultra-Streamlined

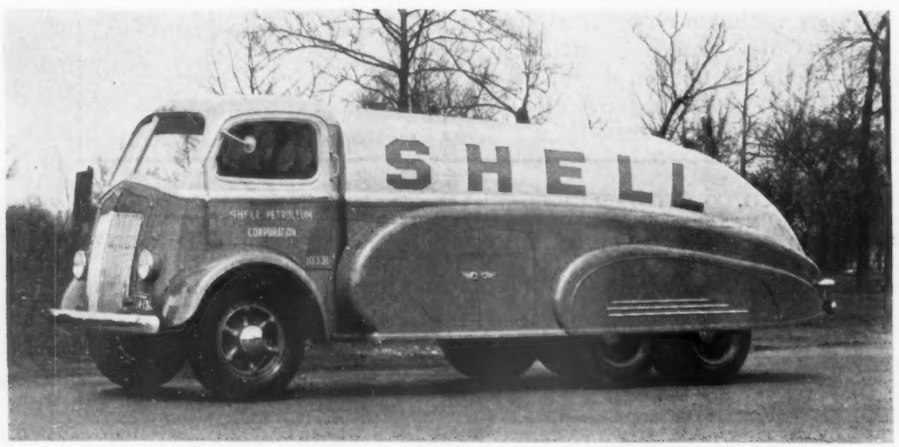
MAXIMUM serviceability and advertising value are the objectives in the design of a new gasoline delivery truck for city service, just completed for the Shell Petroleum Corp., St. Louis. The tear-drop design has been carried to a new extreme.

Shell reports that the cab-over-engine is used on this unit to reduce its overall length, making it more compact and maneuverable. The cab tilts forward, giving complete accessibility to the power plant and thus expediting and reducing the cost of its maintenance. The chassis is equipped with a trailing axle, which permits the load per axle on the rear of the truck to be cut in half, thus allowing an increase in the total payload without overstepping the bounds of highway regulation.

In the development of the tank, streamlining is followed throughout. Manholes and fill caps are shrouded, and bulk heads are installed inside the shell in order to obtain as much exterior smoothness as possible. The tank is of 1500 gallons capacity, divided into five equal compartments.

The outlet of each compartment is protected with a hydraulic emergency valve. Each outlet "tees" through a quick opening discharge valve on either side, into "headers" that lead to the rear of the tank. Each header is equipped with an air eliminator and a 10-inch dial meter, terminating in hose coupler adapters. Operating levers, cable connected to each discharge valve, are located in banks above and behind the meter which they control. Hose tubes open into this rear compartment.

Special care has been made to reduce resistance in the discharge line, by the use of three-inch emergency valves, and two and one half-inch discharge valves and headers arranged to keep a straight line through the air eliminator, meter and outlet. Through 10 feet of two-inch delivery hose with adapter for two-inch underground fill pipes, a discharge rate considerably superior to past experience with two-inch discharge lines through faucets is obtained.



The "tear-drop" design and the tank truck approach a common point in this latest unit of the Shell Petroleum Corp., St. Louis. It has a capacity of 1500 gallons and is to be used for metropolitan gasoline delivery

Sees Oil Profit Boom

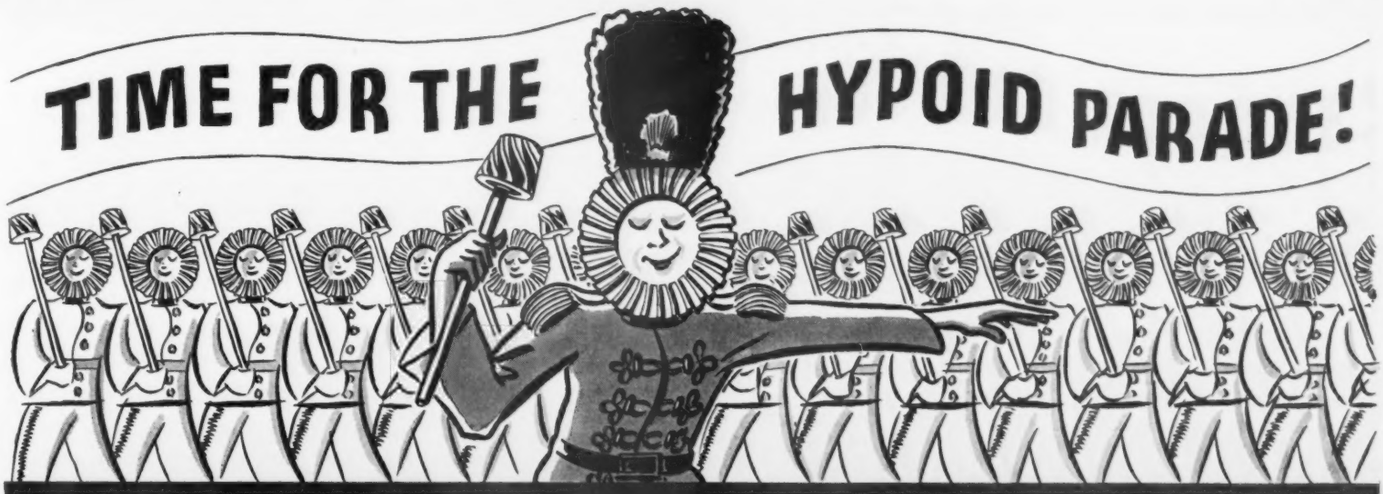
NEW YORK, May 3.—From first quarter reports of oil companies thus far published, the Wall Street Journal estimated last week that the industry as a whole will register a gain of between 45% and 55% in net profits over the similar period in 1936. The unseasonally warm weather in the first three months, with a consequently larger demand for products, principally gasoline, accompanied by stable prices, was largely responsible for the betterment.

The Texas Corp. and Phillips Petroleum Co. reported gains in net income of 90% and 78% respectively over 1936.

Ohio Firm Enters Float

ST. JOSEPH, Mich., May 3.—The Theisen Clemens Co. marketer and jobber here, will enter a float in the city's annual Blossom Festival, May 8, J. J. Theisen announced.

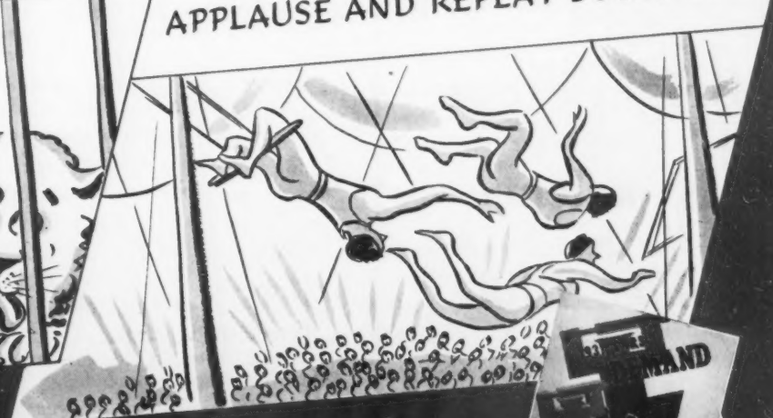
TIME FOR THE HYPOID PARADE!



and if you're selling the wrong Hypoid Lubricant ...you're in for Some Circus!

LIONS HAVE NO FURY LIKE THE OWNER OF A RUINED GEAR!!

BUT HIGH PERFORMANCE BRINGS APPLAUSE AND REPEAT BUSINESS!



So depend on a *tried* and *tested* product *proved* over millions of miles...safe for any load...chemically stable and needing no agitation before using!

Send for this free file booklet—"1937 Cars Demand Extreme Pressure Lubricants." It will help you to hold your hypoid lubricant customers and win even greater volume and profits in this big and growing market!

PENOLA EXPEE COMPOUND

MADE BY THE WORLD-LEADER IN SPECIALIZED LUBRICATION

PENOLA INC., 30 ROCKEFELLER PLAZA, NEW YORK CITY

(Formerly Pennsylvania Lubricating Co.)

Grease Works Operated at: Baton Rouge, La., Eldorado, Kans., Baltimore, Md., Pittsburgh, Pa.

The Accepted Standards of Pennsylvania Bright Stock Excellence Since 1900

H-M and L-M Oils Are Made Solely By

THE CONEWANGO REFINING CO.

Warren, Pa.

24 Cities Service Oil Subsidiaries Give 1936 Report

N. P. N. News Bureau

CLEVELAND, May 3.—The 24 petroleum companies which are subsidiaries of the Cities Service Co. carried on operations in 1936 slightly in excess of production in 1935, according to tabulations submitted in the annual report to stockholders.

The average price of crude oil received by domestic subsidiaries was 10 cents a barrel above 1935, to materially increase the gross income of these companies.

Sales promotion activities were largely centered around increasing the number of dealer outlets to 15,500. The sales of refined petroleum products in 1936 were the largest in the companies' history.

Some of the major oil subsidiaries of the Cities Service Co. are the Empire Oil & Refining Co., Indian Territory Illuminating Oil Co., Cities Service Oil Co. (Penn.) and Arkansas Fuel Oil Co. The reduction to 24 petroleum companies is six less than the 30 petroleum companies in 1935. In line with a policy of corporate simplification, Cities Service Co. has reduced the number of companies, largely by merger and consolidation, to 98 of all kinds in 1936. A tabulation follows:

Progress in Corporate Simplification
(Mainly by merger or consolidation)

	No. of Companies as of Dec. 31				Decrease 1933-1936
	1933	1934	1935	1936	
Petroleum	49	46	30	24	25
Electric and other utilities	71	71	52	45	26
Natural gas	44	41	17	15	29
Holding	13	13	8	7	6
Miscellaneous	12	14	10	7	5
Total	189	185	117	98	91

Oil Operations

Petroleum operations of the subsidiaries of Cities Service Co. are pictured in the following table:

Petroleum

	1936	1935
Company gross crude oil production (incl. royalties) bbls.	28,377,514	29,986,061
Average sales prices, per bbl., of domestic crude	$1.10	$1.00
*Oil wells drilled	263	239
Crude oil in storage, end of year (bbls.)	11,750,000	10,827,000
Crude oil processed in company refineries (bbls.)	30,551,441	28,873,193
Crude and refined oil transported in company-owned tanker fleet (bbls.)	20,054,531	18,958,375

*Not including wells on partnership basis.

Natural Gasoline

Gallons produced (raw)	115,902,334	100,980,942

In 1936, subsidiaries of the company had an interest in 152 wells completed on partnership arrangements, in addition to the 263 new oil wells completed outright. Development work was carried out in oil properties in Kansas, Texas, New Mexico and in the Rodessa field in Louisiana.

Construction work was completed in a partly owned pipeline which began operating early in 1937 for the transportation of crude oil from the newly developed fields in central west Kansas, and a gathering system was constructed in the Rodessa field. During the year the Texas-Empire Pipeline Company—in which a 50% interest is held by a subsidiary—made extensions to its lines and other additions, increasing its capacity 30%. Earnings from the company's tank ship operations increased during the year and freight rates were about 20% higher than in 1935, according to the report.

Three additional gasoline plants were completed during the year for the extraction of gasoline from natural gas at Odessa, Texas; Reno County, Kansas; and in the Sligo Field in Louisiana, the capacity of a plant in the Rodessa Field was increased.

Henry L. Doherty, president of Cities Service Co., summed up 1936 petroleum industry operations as producing 1,100,000,000 barrels, an all-time high. Yet demand was such that 26,447,000 barrels were taken from storage, he said. This demand was 10% above 1935 and was 90% absorbed in the domestic market.

Wages and Taxes

The company reported a total tax bill of $37,212,000 and a wage bill of $37,195,066. The total tax burdens, the report commented, amounted to more than $1 of taxes for each $1 of payroll.

Consolidated gross income of Cities Service Co. and subsidiaries for 1936, according to the report, totaled $49,686,000, an increase of $4,299,000 over 1935.

Consolidated net income was reported at $6,965,496 as compared with $5,856,265 in 1935 and $53,440 in 1934, as reported in the Petroleum Register.

Cities Service wrote off $3,285,190 as loss on investment and advances to Louisiana Oil Refining Corp.

Financial

The report continued:

"The excess of consolidated current assets over current liabilities (net working capital) was $51,087,000. This is an improvement of $46,599,000 since the low point of the depression in 1932. At the year's end, consolidated current assets were $104,867,000 and consolidated current liabilities were $53,780,000.

"Funded debt, notes payable and preferred stocks of the company and subsidiaries outstanding with the public were reduced $22,282,000. The cash production of the company was sufficient to take care of the net reduction of $4,782,000, to provide $29,600,000 for new construction and acquisitions, and to increase cash balances by $6,451,000.

Richfield Oil Co.

"In 1936, the company delivered its holdings in Richfield Oil Co. of California, together with other property owned by its oil subsidiaries in California, to the Rio Grande Oil Co., in exchange for half the capital stock of the latter company. The other 50% of the stock is owned by the Consolidated Oil Corp. A plan of reorganization of Richfield Oil Co. is being completed as a result of which it will have outstanding $10,000,000 of 4% bonds. The largest single interest in its capital stock will be owned by the Rio Grande Oil Co. As one of the underwriters of the securities issued in the reorganization, Cities Service Company also will acquire a minor direct interest in the stock of the new Richfield Oil Corp."

Mid-Continent First Quarter Net Up 20 Per Cent

CLEVELAND, May 3.—Sharing in the general improvement in the oil business, first quarter earnings of the Mid-Continent Petroleum Corp. were reported to be 20 per cent above the first quarter of 1935. This is equivalent to about 60 cents per share on the company's outstanding capital stock.

For the entire year of 1936, Mid-Continent Petroleum Corp. reported net profits, after all charges, of $2.57 per share, compared with $1.31 per share in 1935, in the annual report of stockholders submitted by Jacob France, president.

The net profits in 1936 were reported at $4,777,578. Gross sales, less returns, were $40,357,937. Current assets were reported at $17,771,833, current liabilities at $3,472,883. Balance sheets of previous years report approximately the same amounts and ratio.

Mid-Continent Petroleum Corp. had a total net production of crude oil in 1936 of 5,695,959 barrels, equal to 15,563 barrels per day, compared with 4,341,450 barrels, or 11,894 barrels per day, in 1935.

The company drilled 89 wells on leases in which it owned the entire working interest, resulting in 81 oil wells, 2 gas wells and 6 dry holes, the report said. It continued:

"Net profits for 1936, after all charges, were $4,777,577.69, equivalent to over $2.57 per share of outstanding stock, as compared with $2,417,175.58, or about $1.31 per share, in 1935. The gains recorded in every department of the company's business in 1935 continued through 1936.

"Gross sales in 1936 were $40,357,937.24, compared with $34,277,666.61, in 1935, an increase of over 17.7 per cent, while the cost of sales increased less than 9.8 per cent.

"In the year 1936 the refinery of the company at West Tulsa, Okla., ran 10,177,973 barrels of crude, an average of 27,809 barrels per day, compared with 9,536,129 barrels, an average of 26,126 barrels per day, in 1935."

Total sales of all products in 1936 were 8,658,866 barrels (of 50 gallons), a 9.7 per cent increase over 1935, the company reported. Tank carload shipments totaled 43,489 in 1936, an all time record, and compared with 40,723 in 1935. The company's wholly-owned pipeline ran slightly over 10 million barrels.

Capital expenditures of $7,500,000 were itemized as follows:

Drilling operations	$3,740,000
Oil and gas leaseholds	940,000
Marketing equipment	960,000
Pipelines, etc.	1,860,000

First Quarter of Texas Pacific

CLEVELAND, May 3.—First quarter earnings of the Texas Pacific Coal and Oil Co. and subsidiaries were reported last week by the company. A comparison with the first quarter of 1936 follows:

	Quarter Ending March 31 1937	1936
Gross Earnings	$895,872.32	$791,074.87
Expenses	541,604.23	535,209.30
Operating Profit	$354,268.09	$255,865.57
Net to Surplus (before dividends)	$220,500.27	$138,499.66

...IT WILL PAY TO PUT THEM ON

Now you can order work gloves that are completely resistant to grease, oils and acids!

These new gloves made by Pioneer Rubber Company wear longer...provide a better grip...are cooler in summer and warmer in winter. They have cut glove replacement costs in every instance where they have been used.

The Pioneer glove was developed through the use of a new form of synthetic rubber—the completely oil-resisting synthetic rubber sold under the trade-mark "Thiokol"*, available as a coating material, as a molding powder, and as a crude.

Manufacturers have found that their customers appreciate the *extra* quality of products made with "Thiokol" rubber. Investigate the possibilities of making your products oil-proof. Write for information to Thiokol Corp. Yardville, N. J.

"THIOKOL"

*Registered U. S. Pat. Off.

OILPROOF SYNTHETIC RUBBER

IRON CARBONYL ANTI-KNOCK COMPOUND

AVAILABLE IN COMMERCIAL QUANTITIES

for delivery not later than July 1. Perfectly stabilized and removed. Nonpoisonous. No special equipment needed to treat gasoline. Mixes with slight agitation. Cost per octane count will be somewhat lower than present price of other anti-knock compounds. Continuous supply assured users. Plant now under construction.

FOR FULL PARTICULARS WRITE . . .

TECHNICAL CHEMICAL COMPANY, Dallas, Texas

STOPS the SHOW

WHETHER IT'S ON THE STAGE OR ON THE BOULEVARD, COLOR ALWAYS ATTRACTS FAVORABLE ATTENTION. A DRAB, PALE-FACED WOMAN OR A COLORLESS GASOLINE NEVER DRAWS A CROWD.

DYKEM
Self-Mixing
GASOLINE COLORS

always attract the motorists' eyes. They give white gasoline a glamorous tint that creates the urge to buy. Whatever your color preference, you can get exactly the shade you desire in

DYKEM GASOLINE COLORS

GREEN BN (deep sea shade)
GREEN N (bluish grass shade)
GREEN YN (medium emerald shade)
GREEN GN (bright emerald shade)
BLUE (deep sky shade)
RED (scarlet shade)
RED B (bluish rose shade)
VIOLET (deep violet shade)
PURPLE R (bright purple shade)
BROWN YR (walnut brown shade)
MAHOGANY WRF (deep mahogany shade)
ORANGE Y (reddish orange shade)
ORANGE GY (yellowish orange shade)
ORANGE GR (deep orange shade)
BRONZE ORANGE R (bronze orange shade)
AMBER Y (amber shade)
BRILLIANT YELLOW (sunset golden shade)
LEMON N (lemon shade)
BLACK B (deep black shade)

Prompt shipments in any quantity.

DYESTUFFS & CHEMICALS, INC.
11th & Monroe Sts
St. Louis, Mo.

In Canada: The Dykem Co., of Canada, Ltd.
3194 Dundas St., W., Toronto, Ont.

DYESTUFFS & CHEMICALS, INC.
11th & Monroe Sts., St. Louis, Mo.

☐ Send us full information about DYKEM Gasoline Colors.

☐ Send sample of DYKEM ..... (Color)

..... Name

..... Address

..... City State

Amerada Corp. Shows 16% Increase In Net Profits

CLEVELAND, May 3.—An increase in net crude oil production in 1936 of more than one million barrels over 1935 production of 7.8 million barrels, plus an average increased price realized of 10 cents a barrel, coupled with larger income from other sources, were causes of a 16 per cent increase in net profits of the Amerada Corp. over 1935, according to the annual stockholders' report submitted by A. Jacobsen, chairman of the board and president.

Operating statistics for 1936 and 1935 are as follows:

	1936	1935
Net production of crude oil (barrels)	8,853,688	7,799,031
Daily average (barrels)	24,190	21,367
Well completions:		
Oil wells	168	135
Gas wells	7	6
Dry holes	21	24
Total	196	165
Producing wells abandoned or sold	11	23
Wells being drilled at end of year	27	26
Productive oil wells at end of year	1,066	909
Productive gas wells at end of year	34	27

Drilling operations last year, largely at Monument field, New Mexico, where 59 wells were completed, caused an increase in intangible drilling costs of approximately $1,250,000 over 1935, and $2,250,000 more than in 1934. Company's policy is to charge such drilling expenses in the year in which the development takes place, whereas by far the major portion of the income to be derived therefrom will be realized in ensuing years.

Gives Expenditures

"Expenditure for additional acreage, wells and equipment was approximately $7,250,000 as against $5,300,000 in 1935 and $3,650,000 in 1934," the report said.

The corporation's proven underground reserves, Jacobsen said, were larger at the year-end than at any previous time. Discoveries of a substantial nature were made in new areas in addition to providing new reserves in extensions of fields found prior to 1936.

Receipts from Stanolind Oil & Gas Co. (Standard Oil of Indiana) and Union Oil Co. of California from their share of production on jointly-owned properties were $395,505 and $557,982, respectively, which amounts are included in "other income."

Merger Completed

In December, last, two of the company's wholly-owned subsidiaries, Amerada Petroleum Corp. of Cal. and Amerada Petroleum Corp., were merged, with the latter corporation as survivor.

Report of Amerada Corp. (holding company) and subsidiaries for year ended Dec. 31, 1936, certified by independent auditors, shows net profit of $1,983,901, after all charges, equivalent to $2.52 a share on 788,675 no-par shares of capital stock, excluding 133,400 shares held by a subsidiary company.

Current assets as of Dec. 31, 1936, amounted to $5,420,878 and current liabilities were $1,237,513, compared with current assets of $5,840,282 and current liabilities of $831,615 at end of preceding year.

Consolidated Oil Plans $50,000,000 Expansion Program

CLEVELAND, May 3.—That the Sinclair interests will materially expand their production, refining and marketing facilities was predicted here as the Consolidated Oil Corp. sought authority to issue $50,000,000 of debentures for capital expenditures.

The proposal will be submitted at the annual stockholders meeting at the company offices in New York May 19. H. F. Sinclair, chairman of the executive committee, in a letter accompanying the annual report to stockholders, also said that it is desirable that the 56,592 shares of $5 preferred stock outstanding be redeemed because of the saving as between current interest rates and the $5 dividend on this stock.

Other Proposals

Other proposals to be submitted to the stockholders provide for the establishment of pensions and death benefits for employes, and a five-year plan under which the employes may purchase stock on instalments at not less than the average cost to the corporation of the shares offered.

The Consolidated Oil Corp. reported a net profit in 1936 equal to $1.17 per share, an increase of 48 per cent over 73 cents a share, after preferred dividends, paid in 1935, according to the annual report to stockholders submitted by Sinclair.

For 1936 a consolidated net profit of $16,728,929 was reported, compared with a net income of $11,306,904 for 1935. These figures are after all charges.

Comparison figures in annual reports follow:

	1936	1035	1934
*Gro. sales	$215,385,601	$187,770,101	$168,425,582
Consol. net profit	16,728,929	11,306,904	553,281
Cur. assets	102,323,975	96,627,137	93,706,568
Cur. liabil.	24,205,108	18,249,646	18,607,190

*Gross sales, exclusive of intercompany transactions.

About five million dollars of eight per cent cumulative preferred stock was redeemed during the year 1936, according to the report. The corporation also sold fifty millions of 3.5 per cent bonds, the proceeds of which went largely to pay bank loans incurred with the 1935 redemption of collateral gold bonds bearing 6.5 and 7 per cent interest.

Preferred and common dividends of $14,222,851 were declared during 1936, of which $1 per share was payable on common stock, the report stated.

Capital Expenses

Capital expenditures in 1936 of $26,562,000 were reported, itemized as follows:

Development of producing properties, lease purchases, renewals and rentals	$17,766,000
Pipelines	823,000
Refineries	2,962,000
Casinghead gasoline plants	740,000
Marketing facilities	3,915,000

The company reported pipeline shipments of 80,184,000 barrels, an average of 219,082 barrels daily and tank ship deliveries of bulk oil in 1936 of 35,888,554 barrels.

ADVERTISING PAGES OMITTED

The Technologist's Work Is Cut Out for Him

By ARCH L. FOSTER, Technical Editor

At no time in the history of the refining industry has manufacturing technology traveled at such a pace as it has these last two years and the tempo during the last six months has increased remarkably. Statements to this effect have been made repeatedly in these pages, but it is difficult for most engineers to realize fully the speed of developments and to keep abreast of all the important ones as is shown by their own statements.

This week a well-known engineer in the aviation field made some predictions on the expected progress and trends in aviation powerplant and plane design during the next five years to 1942. He did this with some misgiving. He pointed out that the extremely rapid development in aviation equipment design during the last year has pushed ahead the whole industry of aviation much faster than was expected, so that last year's predictions fell short of the mark. Much of this advance has been preceded by the extraordinary advances made in producing super-fuels of 100 octane number and higher. Result: The spur is given to design of aviation engines which will use all the potential power of these fuels.

At present several other refiners are building units to make such fuels; they see the handwriting on the wall. Aviation leaders have shown that they can and will take advantage of such fuels if faced with the certainty that a supply is available. And the refiners are spending hard millions to furnish that fuel. Standard of New Jersey and Shell Petroleum have been making isooctane for two years or more, for experimental work, chiefly for the Army Air Corps, which is concentrating on this work. Commercial aviation is now doing cooperative test flying.

Several other refiners are building polymerization plants which can be expanded inexpensively to produce fuels of this type. Others are building hydrogenation units, which may be combined with polymerization, either with the catalytic, the thermal or other methods, for producing the same or better fuels. At least six new plants of one or the other of these types will be build-

(*Continued on page* 74)

IPT Contents

Chemical and Physical Methods of Salt Removal from Crude. . .by E. R. Jones . . 72

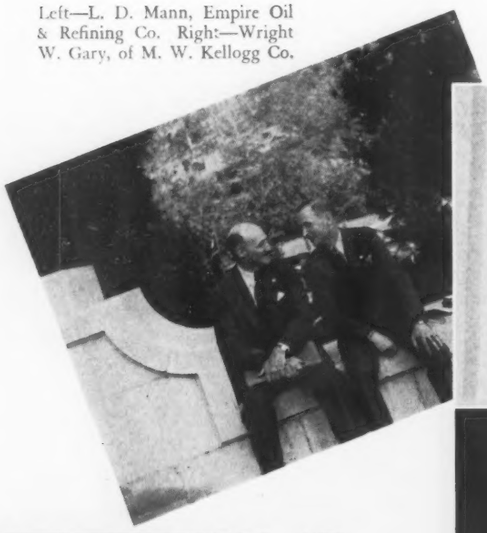
A discussion of observations made and results obtained while trying to find an immediate practical solution of the problems dealing with the desalting of crude oil.

A Suggested Mechanism for Polymerization-Hydrogenation Reactions . . . by Rafael Fussteig 75

Unsaturation and polymerization or hydrogenation of hydrocarbons by thermal methods required for the two types of reaction.

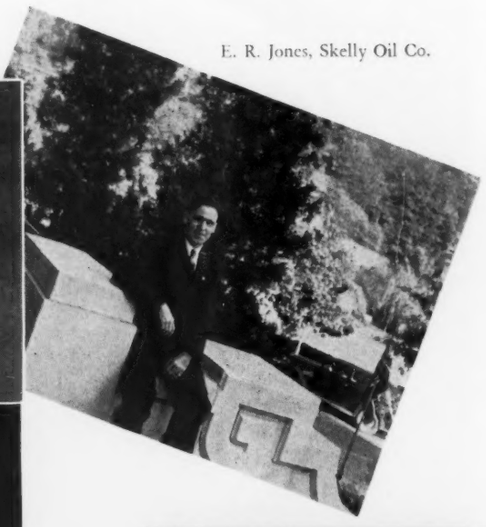
Leaders, speakers, and prominent refining men in attendance at what most refiners present consider the "best W.P.R.A. meeting in its history". This meeting was held at Hot Springs, Ark., April 26-28, 1937.

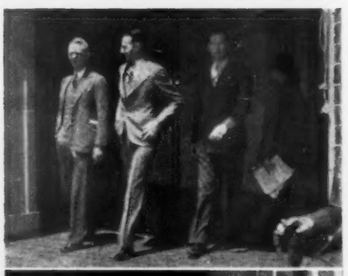
Left—L. D. Mann, Empire Oil & Refining Co. Right—Wright W. Gary, of M. W. Kellogg Co.



D. B. Nutt, Standard Oil Co. of Calif. and Stratford Engineering Co.

E. R. Jones, Skelly Oil Co.





E. R. Jones (left), Skelly Oil Co., talking to Dr. R. W. Leslie, also of Skelly Oil Co.
Ralph Pierce of Louisiana Oil Co. Leon Grosjean, Secretary, Ark.-La.-Tex. section of W. P. R. A.

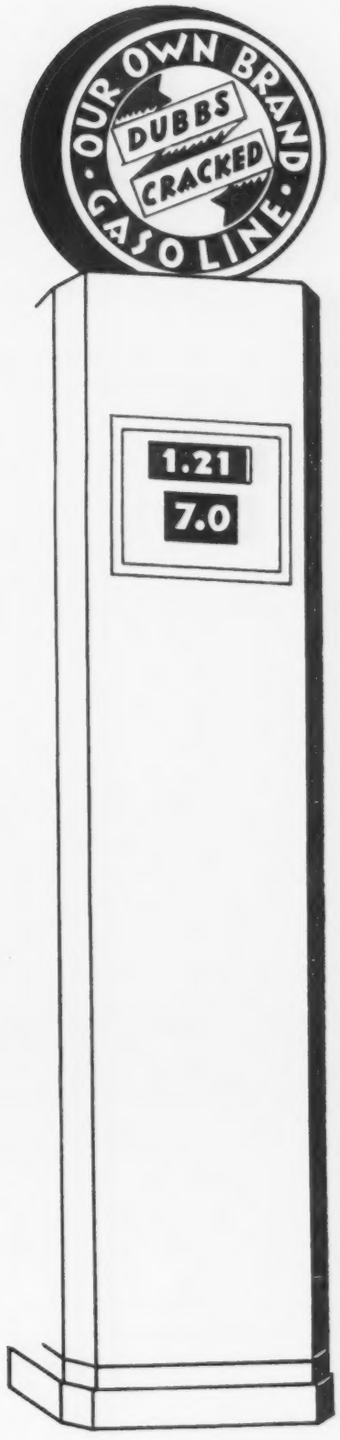
Top—A. V. Bourque, Executive Secretary, W. P. R. A.
Bottom—Charles Smith, National Refining Co., William R. Boyd, Jr., American Petroleum Institute, E. W. Webb, Ethyl Corp.

Left to right—Arch L. Foster, National Petroleum News, D. B. Nutt, Dr. C. D. Lowry, Universal Oil Products Co.
Ernie Youngberg, Shoreline Oil Co., Shreveport, La.
John C. Day, Technical Secretary, W. P. R. A.

Left—G. B. Hanson, Petroleum Rectifying Co., Houston

Left—Carl Orrison, Supt. The Dickey Refining Co. Right—C. W. Berger, Globe Oil & Refining Co.

Two name gasoline



Wilshire Oil Company began Dubbscracking last summer, making twice as much gasoline as they had ever made before

California motorists didn't know about Dubbscracked gasoline but they knew Wilshire

Wilshire knew the value of linking its own good name with Dubbscracking—and did it

They told the story of Wilshire Dubbscracked gasoline in sign language on every Wilshire pump

Californians know Wilshire Dubbscracked gasoline now and like it and buy it—all Wilshire can make

If you are fortunate enough to have Dubbscracked gasoline to sell, tell the motorist in sign language

Universal Oil Products Co
Chicago, Illinois

Dubbs Cracking Process
Owner and Licensor

Chemical and Physical Methods Of Salt Removal from Crude

By E. R. JONES*

(Presented before Western Petroleum Refiners Association, Hot Springs, Ark., April 26-28)

THIS paper was not prepared for the purpose of presenting a method that would serve as a cure all for all problems dealing with the desalting of crude oil. Neither does it present the results of years of deliberate research on the problem. Instead, the paper will discuss the observations made and the results obtained while trying to find an immediate practical solution of the problem.

Throughout the discussion, the word "salt" does not refer to sodium chloride alone, but to the chloride content whatever the positive radical may be. Whenever quantities are mentioned, the results are expressed as sodium chloride.

The first question, of course, is why need the salt be removed from the crude? The first answer is the corrosion trouble that is traced directly back to the salt. This problem has seemingly increased with the increased acidizing of wells. The crude that is obtained from a dolomitic limestone will contain varying amounts of magnesium chloride if the producing well has been acidized with hydrochloric acid. The purpose of acidizing is to break down or make more porous, the limestone structure. The acid reacts with the limestone to form carbon dioxide gas, water, and the chloride of the positive radical that had been combined with the carbonate whether it had been calcium or magnesium. If magnesium chloride is present in the crude it will, by hydrolysis, revert back to hydrochloric acid which is very corrosive to iron. This type of corrosion is first noticed in the first stages of distillation and is combated by the use of ammonia, a relatively expensive chemical. This corrosion is noticed mainly in the condensing section of the units.

Sodium chloride and similar salts are suspended in the crude. They deposit on the heater tubes and still bottoms causing hot spots. It is also claimed (1) that they act catalytically to produce increased amounts of hydrogen sulfide.

A second reason for salt removal is the plugging of exchanger tubes and condenser sections because of the presence of salt in the crude being processed. The salt usually is present in a water solution emulsified with the oil. If the crude is passed through preheating exchangers, and sufficient temperature is reached in the exchanger to vaporize the water, salt will adhere to the tube walls, eventually plugging the tubes and necessitating a shut-down for cleaning. If the hydrochloric acid formed during distillation is neutralized with ammonia, the condensers and vapor exchangers, and indeed even the trays in the fractionating tower, have in some instances become plugged as a result of the deposition of ammonium chloride. Careful pH control tends, of course, to hold down such deposition to a minimum.

The third probable answer is the corrosion of still tubes. This is a question that deserves consideration and study in the future. There is more than surmise to this question. The corrosion seems to be confined to the tubes handling the heavier gas oils. Lime addition has been found greatly to reduce this corrosion. One refiner has installed a rather efficient desalting unit and no difference is seen in the rate

*Skelly Oil Co.

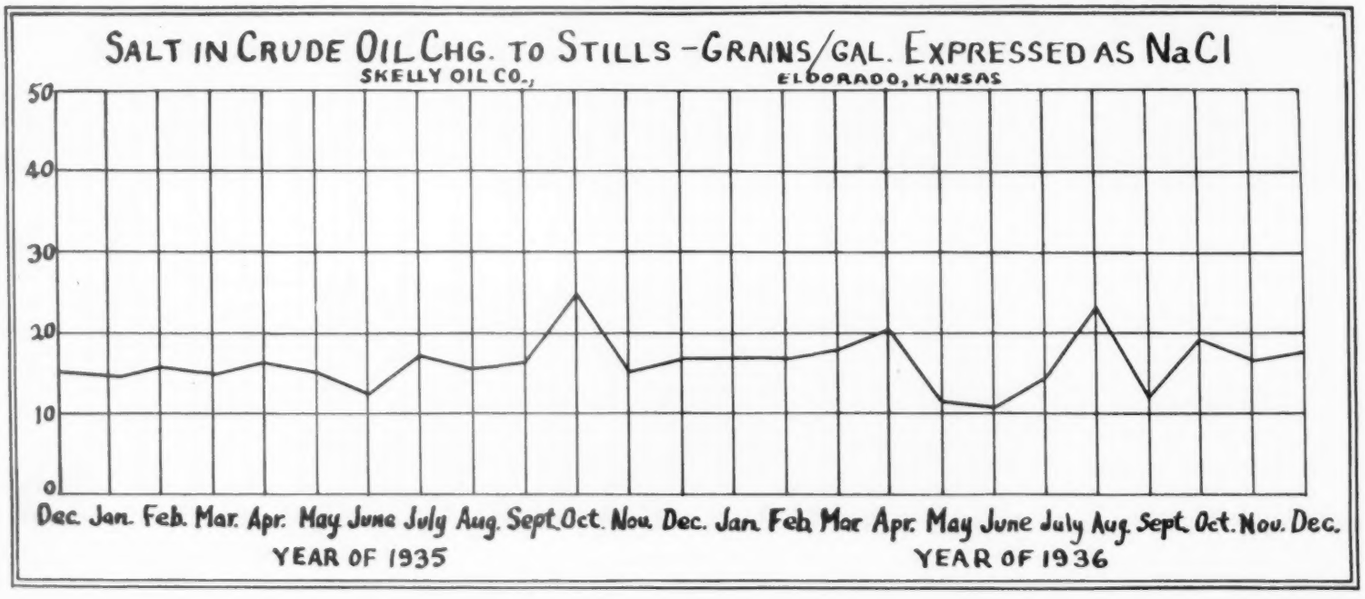

SALT IN CRUDE OIL CHG. TO STILLS - GRAINS/GAL. EXPRESSED AS NaCl
SKELLY OIL CO., ELDORADO, KANSAS
50
40
30
20
10
0
Dec. Jan. Feb. Mar. Apr. May June July Aug. Sept. Oct. Nov. Dec. Jan. Feb. Mar. Apr. May June July Aug. Sept. Oct. Nov. Dec.
YEAR OF 1935
YEAR OF 1936

Fig. 1—Salt in crude oil charge to stills, grains per gallon, expressed as Na Cl

of corrosion in cracking still tubes. However, less coke deposition is being obtained in the topped crude viscosity breaking coil. This action is attributed to the removal of salt from the crude.

The fourth answer to the refiners that are making road oils and asphalt is the need for meeting such specifications as solubility and organic content on those products. Salt in the residue often brings about rejection of these products.

Salt exists in the crude in a water solution emulsified with the crude and also in crystalline form, probably surrounded by wax crystals or perhaps by amorphous wax. Because of the method of producing crude oil, the oil and brine are intimately mixed and it is practically impossible to prevent the formation of emulsion.

In a study of this problem, crude oil taken immediately from a well was shaken with 10 per cent water, allowed to stand for one hour, and was then analyzed for salt. Seventy per cent of the salt was removed in this manner. This suggests the possibility that the oil brine emulsion tends to become stabilized with age. To remove the salt at this point is a much easier job but it means treating each well, which is not ordinarily practical. The refiner has to deal with the emulsion after it has become stabilized and that is what will be discussed in this paper. The subject, "Salt removal from crude oil—chemical process," is possibly not quite accurate for the method is more physical than chemical.

The salt content of the crude can be reduced by allowing long time standing of the crude. The following are data taken on a crude tank that had been allowed to stand four days. The samples were taken from the charge pump at the stills.

Time	Salts-Grain/Gal.
9:30 A.M. 4-13-35	24.9
11:00 P.M. 4-13-35	25.2
11:00 P.M. 4-14-35	16.5
11:00 P.M. 4-15-35	18.5

The crude at the top of the tank had 70 per cent as much salt as the crude at the bottom. Not all refiners have sufficient crude storage capacity for such a treatment. Even so, there will be a pay day some day on the tank bottoms.

The salt content of the crude varies with the season as is shown by Fig. 1. There is less salt during the warm summer months than during the cold winter months. This suggests the idea of lowering the viscosity of the oil with heat and thus aiding to separate the brine from the crude.

If the salt is present in an emulsion of brine in oil, the small particles of brine are dispersed throughout the oil phase. The very minute particles of water are unable to coalesce because of a resistant film surrounding the water particles. Whenever that film is broken, the small brine globules will contact each other and form a globule large enough to separate from the oil.

This oil film can be broken by several methods, but one of the most popular ways is the use of heat. This method is used by the Pure Oil Co. in the Michigan Fields (3). The emulsion is heated to approximately 100°F. and allowed to separate. After the emulsion has become more stabilized, it is often necessary to use higher temperatures. In some instances it is better to heat the mixture to 190-200°F.

The use of temperature has at least three beneficial effects. It lowers the surface tension of the oil, allowing the water particles to coalesce, it lowers the viscosity of the oil, and also causes a greater difference in specific gravity between the oil and brine, thus allowing better and faster separation.

Since this method does not bring about complete dehydration, and since some salt is present in the crystalline form it is necessary to add fresh water to the incoming crude. If sufficient heat is then put on the mixture and the two components intimately mixed, the fresh water will dilute the salt solution already in the oil and will dissolve any salt crystals that are present. The small amount of water that is not removed will be only slightly brackish. The amount of salt dissolved in the water left in the crude can be controlled by the volume of water used and this is one factor that will control the per cent of salt removal that is obtained within certain limits.

Some foreign substances will tend to break the restraining film around the water particles, and cause faster separation. Soda ash is one. The raw crude often contains a small amount of free acid which can be neutralized with the soda ash. The soda ash is introduced as a solution in the fresh water that is added to the crude. Water from the outlet of the vapor condensers may be used. This is not the ideal water to use, water such as boiler feed would be preferable, but it is practical, particularly if it flows by gravity to the soda ash solution tank, and contains some process heat. The solution is introduced in the suction of the crude oil charge pump from there through exchangers where the required temperature is reached and then into a vapor separating tank.

The purpose of the tower is twofold: First to allow more time for contact of fresh water and oil and give the fresh water more chance to bring the dispersed globules of brine into a larger mass and also to dissolve any crystalline salt that may be be present. Finally, the tower is to bring about separation of vapors and oil before going to the settler. A constant level is automatically held within certain limits. There is also a water draw-off connection on the bottom to remove the water that separates in the tower. The time in the tower under ordinary operating conditions must be carefully controlled.

It is essential to remove the vapors that have formed before going to the settler, for the vapors have served their usefulness and now become a menace. Vapors, if present in any more quantity than a trace, tend to keep the contents of the settler agitated. This impairs separation of water and oil.

The water-oil mixture enters the horizontal settler near one end. The incoming pipe extends up into the settler about one-fourth way and is turned with the outlet opening facing that end of the tank. In this manner the incoming stream is not permitted to flow at high velocity across the main body of oil and as a result the tendency to form eddy currents is reduced. The oil flows out the top at the opposite end, and the water is drawn off the bottom.

The following are some operating data:

Bubble tray support flanges arc-welded into fractionating tower

	No. 1	No. 2	No. 3	No. 4	No. 5
Salt in raw crude, grs./gal.	19.0	14.1	20.1	20.1	
BS and W in raw crude, %	0.6	0.4	0.4	0.3	0.3
Water in mixture, %	1.7	1.6	1.8	1.5	1.8
Salt in crude after settler, grs./gal.	6.0	4.2	8.1	11.1	
Water in crude after settler, %	0.5	0.3	0.4	0.7	0.3
Salt removal, %	68.5	70.2	59.7	45.0	

Data No. 1, 2 and 3 are taken under normal operating conditions, No. 4 is to show the effect of lower temperatures. In this case the temperature on the crude-water mixture was 145° F. The dehydration and desalting were not as good as at higher temperatures. The No. 5 set of data were taken when conditions were such that the time in the settler was nearly fifty minutes and indicates that complete dehydration cannot be expected. This can be explained in this manner. As a majority of the small droplets coalesce, the remaining droplets are, as a result, fewer in number and farther apart, and consequently their chances of contacting and coalescing become less and continue to do so as the process proceeds.

The crude exchangers have given very little trouble since this method has been in use. One refiner (4) that experienced considerable trouble with exchangers salting up has found that if the crude is completely dehydrated before entering the exchangers, the salt will not deposit in the tubes.

Since removing a portion of the salt, the necessary amount of ammonia to hold down corrosion in the condensing equipment has been noticeably reduced. The crude heaters make better runs when the salt is removed. As to corrosion of tubes in cracking stills, that will have to be left for further study.

I wish to thank H. L. Bedell of the White Eagle Division of the Socony-Vacuum Co. at Augusta, Kansas, C. W. Berger of the Globe Refining Co. at McPherson, Kansas, and C. O. Orrison of the Dickey Refining Co. at McPherson, Kans., for the information they gave and which was used herein.

Bibliography

(1) Refiner and Natural Gasoline Manufacturer—March 1937, P. 99
The Oil Corrosion Problem—Gustaf Egloff
(2) Dickey Refining Company, McPherson, Kansas
(3) The Petroleum Engineer—March 1937, P. 47
Separation and Disposal of Salt Water in Michigan Fields—J. C. Albright
(4) Globe Refining Company—McPherson, Kansas

Self-Cooling Gas Engine Exhaust System

When building the present power room and equipping it for waterflooding properties in the Nowata field in Northeastern Oklahoma, Harmon & Whitehill decided that the exhaust from the gas engine should be designed so that it would be self-cooling, as well as removing fumes from the engine room by creating a draft, induced by the exhaust gases from the power cylinder.

In order to accomplish this objective, a concrete box was poured to carry the exhaust pipe. The box extends well away from the outer walls of the building, and is about eighteen inches deep, and thirty-six inches wide, covered with removable concrete slabs which fit tightly upon the side members. The outer end of the exhaust pipe looks upward into a fifteen inch stack, made of a full joint of old conductor pipe, which sets directly upon the concrete box. A "locomotive" draft is obtained by the force of the explosion and release of the exhaust gases into the larger stack, which effectually creates a considerable draft through the concrete box which cools the exhaust pipe without the injection of water.

The stack is readily removable, as it sets directly upon the top of the concrete box, supported by right angle sections of two inch pipe, which were welded to the outer walls of the stack. By using a square and following exact measurements when tacking the two inch pipe to the stack, the unit stands perpendicular without oscillation.

The Technologist's Work

(*Continued from page* 69)

ing or operating by the end of 1937. Possibly more, we refuse to predict.

At the same time automobile fuels are receiving special attention. It seems reasonably certain that the octane number of "Q" fuels will be raised somewhat in the near future, necessitating additional expense in refining because of more cracking, more re-forming of heavy naphthas and doubtless more tetraethyl lead. This means a better fuel for the motorist. The engine designers' slide rules are poised, waiting to see what the "top" will be for the next year or two. Then their engines will be built for the new fuels.

Refiners, as instanced by the very successful program of the Western Petroleum Refiners Association last week, are studying intensively new methods for sweetening gasolines and for treating them to save octane number, increase lead susceptibility and increase yields. Results are gratifying to a degree not thought of two years ago. Wright W. Gary of the M. W. Kellogg Co., presented a masterly paper to show refiners how to determine the most economical methods of utilizing their raw materials and plants to make new fuels most cheaply. It is the Heydey of the technologists—and what a load is placed on their shoulders.

A.P.I. Divisional Committees to Meet

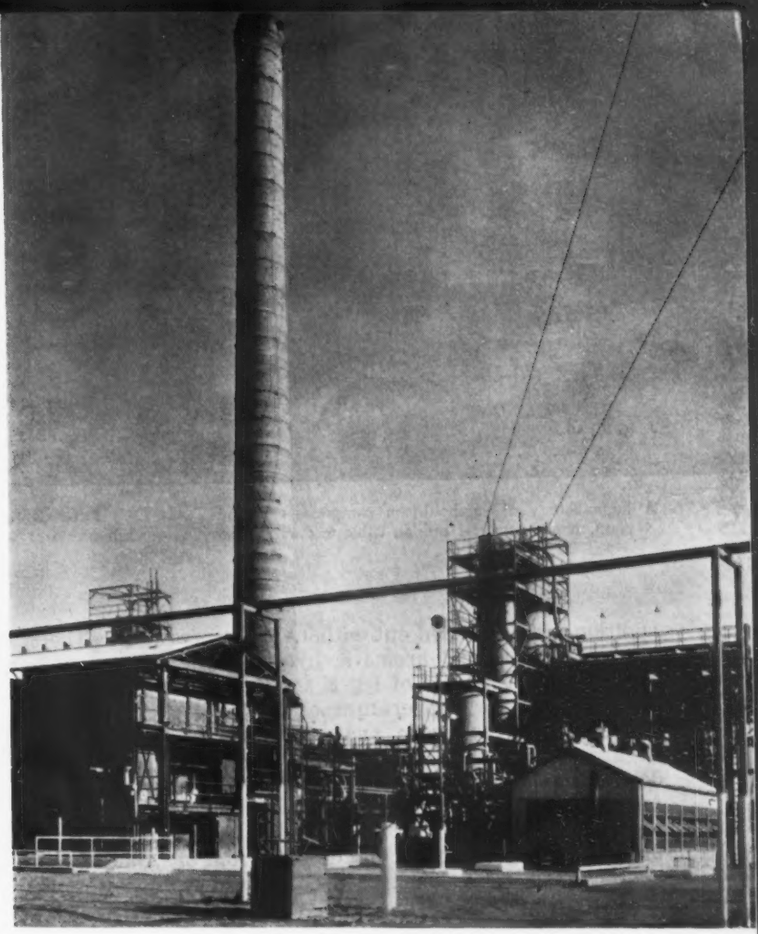
NEW YORK, April 30.—Meetings of 48 divisional committees and of the board of directors have been scheduled tentatively for the program of the seventh mid-year meeting of the American Petroleum Institute at Colorado Springs June 1 to 3.

The committees, representing the institute's division of production and refining, will consider technical subjects related to equipment and methods utilized in the petroleum industry.

A 15-inch exhaust stack supported by 2-inch nipples which are welded to the stack at right angles, so stack can be removed easily without disturbing the concrete base

Suggested Mechanism For Polymerization-Hydrogenation Reactions

By RAFAEL FUSSTEIG



Polymerization, a relatively new tool, commercially speaking, for the refiner, is being used in plant such as this at Phillips' Borger, Texas, plant, capable of making 1000 barrels of polymerized gasoline per day

THIS author presents a theory to explain the mechanisms of the dehydrogenation of saturated hydrocarbons by pyrolysis; the catalytic polymerization or hydrogenation of unsaturated hydrocarbons.

He shows by this suggested mechanism that these reactions must take place in different reaction vessels, under different conditions of temperature and pressure, if the highest efficiency in each reaction is to be attained. This position agrees essentially with the contentions of other investigators, those of Dr. Gustav Egloff for example, in explaining thermal polymerization.

The author also discusses here the conditions of an experimental investigation, using reduced nickel, and ferrous sulfate, on pumice in one chamber, and a phosphoric salt, manganous and ferrous sulfates in the second chamber.

THE decomposition of high boiling oils into low boiling hydrocarbons has not yet been fully explained because of the complexity of petroleum oils and of the products formed. Despite the large amount of work done to date, there is still a large field for the systematic investigation of this subject. Cracking is the term applied to the process whereby materials of a more or less saturated character through the employment of certain conditions of temperature and pressure are caused to undergo a molecular rearrangement to materials of more highly olefinic or aromatic character.

The ultimate products of such a process are hydrogen and carbon. However, cracking is controlled in such a way that the important products are gasoline and fuel oils, with gas and coke appearing as by-products which are in many cases difficult of disposal. In other words, the change that occurs during the decomposition of hydrocarbons is viewed as a splitting up of large molecules into small molecules. In addition there is an opinion that certain reactions result in the formation of higher molecular hydrocarbons.

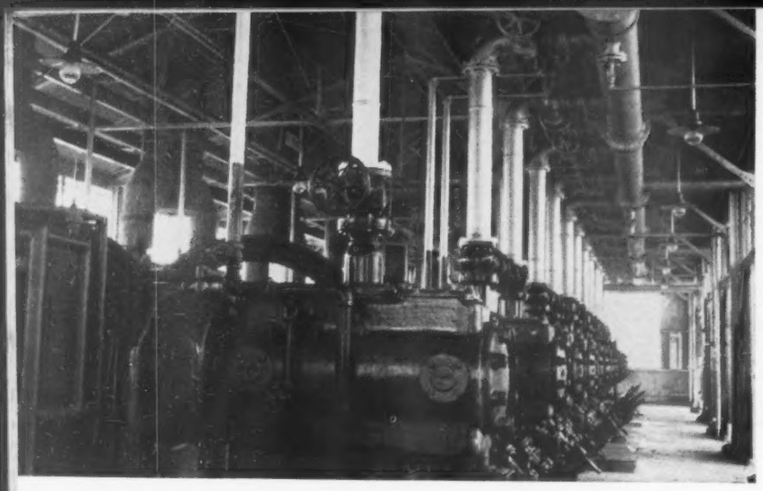
Thus, lubricating oils, asphalt and coke are the results of the above mentioned polymerization reactions. It results from the above that the essential characteristics of the cracking process lies in the fact that always there is formed, along with the light hydrocarbons, products being enlarged in statu nascendi, with hydrogen split from the second part of the molecule, and as the crude oils contain about 15 per cent of disposable hydrogen, this second part of the split molecule is transformed into polymerized heavier unsaturated hydrocarbons, such as tar and coke. In order to avoid the occurrence of these polymerization reactions a new method has been employed known generally as the hydrogenation process.

This process consists of pumping the charging stock together with compressed hydrogen into a heating coil, and then into reaction vessels, where the hydrogenation occurs. This sort of hydrogenation differs entirely from the simple hydrogenation process. By simple hydrogenation process is meant solely the addition of hydrogen to the molecule without any derangement of basic construction. Destructive hydrogenation is a combination of simple hydrogenation pyrolysis, the simply hydrogenation taking place after the rupture of the molecule. In other words, destructive hydrogenation is a combination of cracking and simple hydrogenation. For this purpose high temperatures and pressures must be employed, the reactions obtained being dependent upon these factors. These reactions can be easily determined by means of the mathematic expression of Nernst:

$$\log K = -\frac{Q}{4.58\,T} + n\,(1.75 \log T) + n.C$$

where, Q = the heat of vaporization of the given reaction; n = the algebraic total of molecules taking part in the reaction, the disappearing molecules being denoted by the plus sign and appearing molecules by the minus sign; n.C = the algebraic total of products of the chemical constant by the number of molecules.

According to these calculations the values of log K for olefins are positive even at 477°C., that is to say, that the addition of the hydrogen into the olefins can be easily carried out. As the values of log K at 200°C are very great this



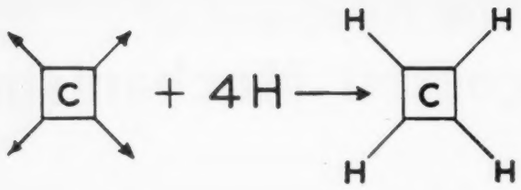
A huge battery of engine-driven compressors in the Texas Co.'s Pico, Calif., plant, handled several million cubic feet of gas per day, at high pressures

addition can be carried out without great pressures. The addition of cyclic and aromatic hydrocarbons shows another character. The values of log K for these reactions are positive only at the temperature of 200°C. At temperatures above 300°C. the cyclic and aromatic compounds show a negative value which brings about the reversible process of dehydration. High pressures must therefore be used to obtain the equilibrium constant of these reactions. According to this phenomenon it is very easy to hydrogenate only the unsaturated hydrocarbons of the petroleum oils, the aromatic hydrocarbons being unattached because of using lower pressure.

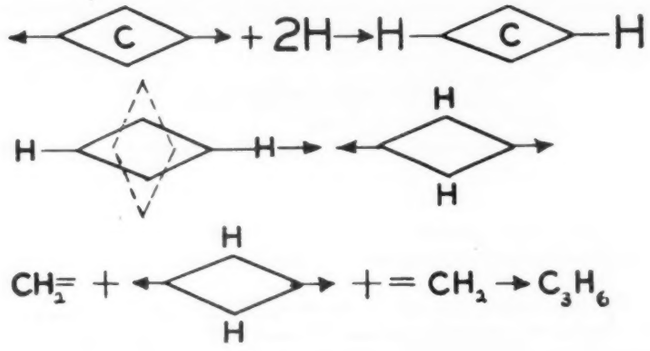
The saturated hydrocarbons show a quite different conduct as they are first split in little molecules which are then completed with hydrogen. The splitting is complicated by an increase of molecular weight, because their content of hydrogen decreases. Therefore temperature and pressure must be increased to obtain the hydrogenation point. Without the increase of these two factors the velocity of the reaction is too small, and the process will pass in the direction of formation of gasous hydrocarbons on the one side, and of liquid, dehydrated, unsaturated hydrocarbons which easily polymerize into tar and coke, on the other side. Therefore it is necessary to increase the reaction of hydrogenation in that manner that the split dehydrated hydrocarbons can be easily completed with hydrogen in the moment of their statu nascendi. The hydrogenation reaction will be increased by using suitable catalysts. The catalysts always must be employed, because even the highest pressures are unable to obtain the necessary reactions. The use of a catalysts, at a temperature of 450°C., and the pressure of 200 atmospheres, brings about a result that cracking and hydrogenation are increased to a high degree. Of course, the type of catalysts influences to a high degree the process of hydrogenation.

However, the above mentioned considerations give only the end result of the cracking and hydrogenation operations. But they do not say how the intermediate reactions occur. The reason for this is that little attention has been directed toward the common physical and chemical characteristics of decomposition, hydrogenation and polymerization of hydrocarbons. The author has studied this problem for a long time, and has established the fact that *these three phenomena have in their first phase the same original reaction, this being the complete splitting up of hydrocarbons into free carbon and hydrogen.*

In the first phase the carbon and hydrogen exist in statu nascendi. The carbon cannot be obtained in this form, because it is only in a potential state. This form can only exist a very short time under certain conditions, since it possesses the tendency to "absorb" some potential atoms of hydrogen. According to my observations two sorts of potential carbon can exist in the first phase. The carbon with four free linkages and the carbon with two free linkages. According to these structures, the first form of carbon is able to combine four atoms of hydrogen, while the second part binds in the first phase only two atoms of hydrogen.



The first reaction shows that methane can be produced under certain conditions, but leading to no desired aim. For the remainder the 100% formation of this compound requires very high temperatures, pressures, and chiefly a long time; a phenomenon which can be observed only in nature as natural gas. The second reaction during the decomposition of hydrocarbons is the formation of $=CH_2$ molecules. In the moment of formation of this potential molecule, that is to say, in the moment of saturation of two mutual free linkages these points will be pressed in such manner that the structure will be changed, having in consequence the activation of the other two linkages:



This new structure combines with the free linkages of two $=CH_2$ molecules, as indicated in the fourth reaction, this reaction being an ordinary polymerization reaction. This structure can also combine—under certain operating conditions—instead of the two $=CH_2$ molecules, two atoms of hydrogen. This reaction leads to saturation of the polymerized hydrocarbons. Polymerization of unsaturated hydrocarbons and its application to hydrocarbon chemistry, has been known for many years. In general, the reaction may be defined as the union of two or more molecules, the latter being called "polymers."

The first theory of polymerization was proposed when technologists were studying the mechanism of sulfuric acid refining of hydrocarbon oils containing unsaturated hydrocarbons, viz., that sulfuric acid forms first an acid ester or alkyl sulfuric acid by addition; this addition product subsequently reacting with another molecule of olefins to form the polymer. The sulfuric acid is liberated, and theoretically may go through many cycles.

According to the partial-valence theory, the double-linked carbon atoms have partial valences. The further assumption is made that the molecules contain a mobile hydrogen atom which shifts from one molecule to the other, thus permitting the polymerization. The writer's theory of polymerization occuring during the decomposition of hydrocarbons is the existence of free carbons in statu nascendi, which form a potential molecule for further polymerization.

As mentioned earlier, the effect of temperature is very great in cracking and in hydrogenation, not so much because of differences in the properties of the gasoline produced, but because the high temperature changes the direction of formation of other high molecular hydrocarbons. According to this theory the temperature changes the direction of polymerization of $=CH_2$ molecules.

Pressure also influences the polymerization of the these $=CH_2$ molecules. With increasing temperatures and pressures, the chain of hydrocarbons produced will be longer. Of course, this polymerization is influenced by the type of oil, and by the content of disposable hydrogen in the oil.

COMPLETIONS ON TIME

Time is an important factor and Badger engineers are just as anxious to turn the project over to the client "completed" as the client is to get it.

Badger's "On Time" record is high, due largely to the exceptional care and accuracy in planning the design, purchasing and construction.

E. B. BADGER & SONS CO.

BOSTON • NEW YORK • SAN FRANCISCO

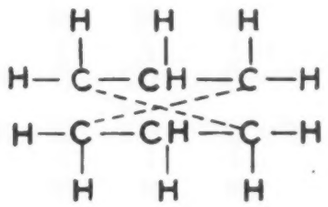
Engineers and Contractors
for Petroleum Distillation and Refinery Equipment

Since the oil contains an average of 15 per cent hydrogen, a great quantity of free carbon in statu nascendi remains unattacked by hydrogen atoms.

A great part of these carbons is forced to combine between themselves as follows: —C— + —C— + —C— = —C—C—C—; this reaction leading to the formation of higher molecular hydrocarbons. However, not all free carbons are able to go into this reaction, having in consequence the disappearance of their activity, which leads to the formation of coke. A part of the free carbons with two active linkages will be transformed, under certain temperature and pressure conditions, into carbon with four active linkages. Since a 100% formation of methane from these carbons can not be easily obtained, their activity disappears in a short time, being transformed into coke. On the other hand, the methane will be split into carbon and four atoms of hydrogen. Under certain temperature-pressure conditions this carbon will be transformed into carbon with two active linkages. The remaining hydrogen atoms will be "absorbed" by two active linkages of unsaturated hydrocarbons as follows:

1 .....$CH_4 \longrightarrow C + 4H$;
2 .....$C + 2H \longrightarrow =CH_2$;
3 .....$C_3H_6 + 2H \rightarrow C_3H_8$;

When polymerizing $=CH_2$ molecules at high temperatures, the active linkages will act in the middle of three or more $=CH_2$ molecules, as indicated below:



At the same time the sulfur, nitrogen and oxygen compounds are submitted to the same reactions. In the first phase these compounds will be split into free sulfur, nitrogen and oxygen, and in the second phase transformed into hydrogen sulfide, ammonia and water. That is why the polymer distillates are lower in sulfur content than cracked gasoline where the process of the first phase is not complete due to unfavorable conditions. It follows from the above, that the formation of the four groups of hydrocarbons, namely unsaturated, naphthenic, aromatic, and paraffinic hydrocarbons are the result of different reaction movements of the $=CH_2$ molecules, whose composition varies as a function of temperature, pressure and time. In other words, in order to produce a high antiknock gasoline it is necessary to operate under proper temperature-pressure conditions. The molecular weight of the constituents also influences the polymerization of hydrocarbons.

According to the theory of Berthelot, the reaction of decomposition of decomposition of hydrocarbons may be explained as follows:

1. As a molecular decomposition: $C_3H_6 \rightarrow 3C_2H_2$.
2. As a destruction of saturated hydrocarbons into unsaturated hydrocarbons and hydrogen: $C_2H_6 \rightarrow C_2H_4 + 2H$.
3. As a destruction of higher molecular hydrocarbons into lower molecular hydrocarbons: $C_6H_5—CH=CH_2 \rightarrow C_6H_6 + C_2H_2$.

This theory at first seems to be exact, but when following the first and third reactions we are forced to the conclusion that the theory upon which it rests is misleading, because no decomposition process could obtain these results even in traces. However, the second reaction seems to be exact, but somewhat incomplete, because the dissociation of hydrocarbons into active carbon and hydrogen has not been taken into consideration. In reality the following reactions may occur:

1) $C_2H_6 \rightarrow 2C + 6H$.
2)

a) When carbon with four active linkages: $2C + 6H \rightarrow CH_4 + C + 2H$.

b) When carbon with two linkages: $2C + 6H \rightarrow 2CH_2 = + 2H \rightarrow C_2H_4 + 2H$.

c) When having an atom of carbon with four linkages, and an atom with two linkages: $2C + 6H \rightarrow CH_4 + =CH_2$, the $=CH_2$ molecule being then polymerized under proper conditions into different hydrocarbons.

As mentioned earlier, to obtain better results in the decomposition and hydrogenation of hydrocarbons a proper catalyst must be used. For example when using a proper catalyst in the cracking process, this process can be directed in such a manner that only gasoline is produced, and the residue obtained is pure coke. Hence the process will yield low boiling ingredients and highly polymerized carbon particles. A certain amount of gas is also formed during the process. About half of the gas formed was methane, about one-third olefines, and about one-tenth hydrogen. Viewing the cracking process in the light of the above, we reach the conclusion that the catalyst helps in the formation of $=CH_2$ molecules, in the proper polymerization of these molecules into gasoline-like hydrocarbons, and it prevents the other free carbon particles from going into reaction with the polymerized $=CH_2$ molecules.

A similar action can be observed in the hydrogenation process, but a second reaction must occur here, that is to say, the hydrogen atoms go into reaction with the free, active carbon atoms, which are unable to go into reaction with the disposable split hydrogen atoms. However, not all petroleum products can be produced easily. The hydrogenation of kerosine and gas oil can be carried out easily, because the split molecules are easily saturated with hydrogen. In this case it is sufficient to carry out the hydrogenation in the so called one-phase system. The higher molecular weight lubricating oils show a quite different behavior. The split particles are unable to go into reaction with the hydrogen atoms. The higher the molecular weight, the more difficult it is to saturate the split molecules with hydrogen. According to the conditions of this hydrogenation treatment and the nature of the catalyst employed, the chemical reactions that occur alter their direction, and therefore only polymerization of the active carbon particles takes place.

Therefore the hydrogenation process of the higher molecular hydrocarbons is usually carried out in two phases; in the first liquid-phase treatment the higher molecular hydrocarbons are split and hydrogenated into middle molecular weight compounds, these being then split and hydrogenated in the second vaporphase. The catalyst is indeed able to transform the higher molecular weight hydrocarbons into gasoline at the beginning of the process but it can be seen that as soon as the partial pressure and the throughput increase the activity of the catalyst will quickly decrease.

The difficulties arise for two reasons: 1. The higher molecular weight compounds in the charging stock are adsorbed by the surface of the catalyst in the beginning of the process, contributing, in consequence, to the isolation of the rest of the hydrocarbons. 2. The higher molecular weight compounds are dehydrated and polymerized at a higher partial pressure. Therefore these compounds will be transformed into hydrocarbons which can not be split, being retained finally on the surface of the catalyst. These reactions cause the decrease in activity of catalysts. To obviate these difficulties the process can be divided into two stages, liquid phase and vapor phase. Separation of the process into stages serves to eliminate both of the above difficulties.

Let us now discuss these difficulties in the light of this theory. According to this theory each hydrocarbon, when being split during the pyrolysis, is split into carbon and hydrogen atoms, these being in the active state. In the second phase these elements are combined either as methane or $=CH_2$ radicles. However, this splitting up into carbon and hydrogen, and the addition of the imported hydrogen particles does not take place during the process for all hydrocarbons. This depends to a high degree upon the sort of the carbon, and upon the molecular weight of the hydrocarbon. In the first case, where the hydrocarbon contains

the carbon with four linkages, the splitting up into carbon and hydrogen presents great difficulties. In the second case, it can be said that the higher the molecular weight of a hydrocarbon, the more difficult is the formation of the $=CH_2$ radicles. The reason for this is that when a hydrocarbon being of a high molecular weight, the velocity of the split carbon atoms are much more intensive that those of the split hydrogen atoms.

This causes the carbon particles to combine between themselves. This reaction occurs the stronger, the higher the molecular weight of the hydrocarbon. In other words the velocity of the split carbon atoms is the more intensive, the higher the molecular weight of the hydrocarbon. At the beginning of the process a part of hydrogen combines with a part of carbon, so that in the first minutes the formation of the gasoline could be observed. At the further continuation of this process middle weight hydrocarbons are formed, because a part of the imported hydrogen particles have been combined with a part of the active carbon particles. But when following the process the formation of new higher molecular weight hydrocarbons and coke could be observed.

In this phase the active carbon particles begin to go into reaction between themselves, or to go into labile reaction with the catalyst, this latter reaction having in consequence the settling up of the fine carbon particles into the pores of the catalyst. Therefore the hydrogenation process of higher molecular hydrocarbons in the liquid phase must be thoroughly controlled, to avoid the polymerization of the carbon atoms between themselves. In the instant that the formation of coke is indicated the process must be interrupted.

It can be seen from the above that the hydrogenation of the higher molecular weight hydrocarbons takes place very slowly. The split hydrogen particles have a lower velocity that those of the split carbon particles, this causing a small formation of $=CH_2$ radicles. The imported hyrogen particles do not possess the velocity of the split hydrogen particles. Therefore a very small amount of these hydrogen particles takes part in the hydrogenation of higher molecular weight hydrocarbons, in the formation of $=CH_2$ radicles. The reason for this is that the velocity of the hydrogen particles is not equal to that of the carbon particles. Especially the velocity of the important hydrogen particles is so small that it is impossible to carry out a favorable hydrogenation. In other words, in order to carry out a complete formation of the $=CH_2$ radicles it is necessary to give the hydrogen particles the same velocity. No temperature, pressure, and catalyst is able to accomplish this. Therefore it is necessary to find another hydrogenation material.

Nobody has considered methane, a gas to be found in great quantities, as a hydrogenation material. This gas is very rich in hydrogen, and considering it from the theoretical standpoint, it would be possible under certain conditions to polymerize it into gasoline hydrocarbons, liberating at the same time a great deal of hydrogen. For example the methane could be theoretically transformed into ethane and hydrogen: $2CH_4 \rightarrow C_2H_6 + 2H.$; ethane into butane, and hydrogen: $2C_2H_6 \rightarrow C_4H_{10} + 2H.$, and so forth. But as mentioned earlier, the unsaturated hydrocarbons can be more easily polymerized than the saturated because the former have their carbons in the structure of $=CH_2$ radicles, while the carbon of the latter shows a form of four active linkages. It is therefore necessary to create conditions which would convert the carbon with four active linkages into the carbon with two active linkages.

Two reactions must be caused: the first being the transformation of the carbon "in statu nascendi," the second the formation of the $=CH_2$ radicles followed by the polymerization into gaseous, low molecular weight unsaturated hydrocarbons. These polymerized gaseous unsaturates must be again submitted to a proper decomposition in order to polymerize them into higher molecular weight, gasoline-like hydrocarbons. In other words, two processes must occur in the production of gasoline from separated hydrocarbons, each of them being carried out separately.

Therefore the yield of gasoline is less when carrying out these two processes in one reaction chamber. To obtain the maximum polymer gasoline from a given quantity of natural gas these two processes must be controlled exactly, especially the first. In order to be successful in these reactions at least two reaction chambers must be employed. Viewing this process in the light of the above, we are forced to the conclusion that the natural gas must first be dehydrogenated. This hydrogen may be easily substituted in the polymerization reactions, where the want of hydrogen causes the formation of tar and coke. It can be seen from the foregoing, that the following reactions may occur during the decomposition of saturated hydrocarbons having in consequence the delivery of hydrogen in statu nascendi:

$$CH_4 \rightarrow \quad =CH_2 \quad + \quad 2H.$$
$$C_2H_6 \rightarrow \quad 2=CH_2 \quad + \quad 2H.$$
$$C_3H_8 \rightarrow \quad 3=CH_2 \quad + \quad 2H.$$
$$C_4H_{10} \rightarrow \quad 4=CH_2 \quad + \quad 2H.$$

These $=CH_2$ radicles are then polymerized into unsaturated gasous hydrocarbons, which may be considered as the material for production of liquid gasoline-like hydrocarbons. However, by means of the methods used, the pyrolysis of natural gas does not lead to desirable results. Only a very small quantity of natural gas could be transformed into unsaturates during the pyrolysis of the natural gas. That is to say, only a small quantity of natural gas could be transformed into liquid gasoline-like hydrocarbons. When using such a method, the amount of unattacked saturated hydrocarbons is very high, and thus it is an uneconomic process.

In our experiments the transformation of saturated hydrocarbons into unsaturates show a considerably higher value than those of the methods used. This is because a great part of the carbons with four active linkages, which have been flattened somewhat on their mutual corners but not transformed into carbon with two active linkages, accelerate this reaction in the second reaction chamber. The process in the second reaction chamber does not permit the consolidation of the somewhat flattened carbons with four active valences.

In the methods used no reaction power is able to prevent this consolidation. On the contrary our experiments show the possibility of that transformation under proper conditions. The first autoclave was charged with a mixture of reduced nickel precipitated on pumice stone and ferrous sulfate; the second autoclave with a mixture of a phosphoric salt, manganous sulfate, and ferrous sulfate. The gasous material was processed at a temperature of about 1,800°F., and the pressure in the first autoclave was 150 pounds; in the second 600 pounds per square inch. These experiments show the increase in the yield of the unsaturated gasous hydrocarbons. The older method used showed about 11% hydrogen, and about 25% of unsaturates, whereas our investigations showed the possibility of producting 20% hydrogen and 43%. It can be seen from the above that this process results in increasing the yield of unsaturated gasous hydrocarbons. This gas is then directed again to a preheater to reach the necessary temperature to cause polymerization into liquid gasoline-like hydrocarbons. Of course, a proper pressure and catalyst must be used here. The character of the distillates produced varies widely with the operating conditions employed.

The distillate obtained by the high pressure, low temperature method of operation is comparatively volatile, and would only have the maximum blending value if the other component of the blend is lacking in volatility. On the other hand, the high temperature polymerized distillate is almost entirely aromatic and of low volatility. According to our experiments, the yield of distillate seems to be somewhat higher for the high temperature and low pressure operation than for the low temperature, high pressure operation. In the high temperature operation a gasoline of 95 to 105 octane number is obtained. The octane blending value is approximately 105 to 125. The polymer produce under

high pressure and low temperature is rich in unsaturated hydrocarbons while the polymer formed in high temperature, low pressure operation is almost entirely aromatic. To obtain the maximum possible polymer gasoline from a given quantity of natural gas a combination of double pyrolysis and polymerization seems to be ideal.

Viewing the considerations in the light of the above, we reach the conclusion that the unsaturated hydrocarbons are easily cracked, polymerized, and hydrogenated, while the saturated hydrocarbons encounter great difficulties in these reactions. According to our hypothesis, the reason for this lies in the properties of the active carbon atoms. In addition to this, the sort of hydrogen in contact with the split molecules plays also a very important part in these reactions. As mentioned earlier, the hydrogen released in these cesses possesses a greater activity than that added artificially. The reason for this is that the hydrogen split from the hydrocarbon exists in a very short time in statu nascendi, while the artificially added hydrogen molecules must reach this state by the action of a catalyst. But it is safe to say that this agent is unable to convert all hydrogen molecules into the state of activity.

As mentioned earlier, the saturated hydrocarbons, like methane, show up on decomposition a freeing of hydrogen atoms. These hydrogen atoms are to be "absorbed" by the carbon atoms, because they are very active after splitting off from the hydrocarbon molecule. Of course, proper conditions must be used here. The petroleum oils possess only about 15% disposable hydrogen, this composition having in consequence the impossibility of complete transformation of the higher molecular weight oils into lower molecular weight hydrocarbons, because a great quantity of active carbon is unattacked by hydrogen.

Therefore a great part of these carbons are forced to combine among themselves. This reaction leads to the formation of higher molecular weight hydrocarbons. On the other hand, many carbons lose their activity and precipitate as coke. In order to avoid these reactions hydrogenation is used; this process consisting of the action of compressed hydrogen on the split carbons. However, no technologists have taken into consideration the possibility of using the split methane in the hydrogenation of higher molecular weight hydrocarbons. Our investigations established the fact that under proper operating conditions, the decomposed methane mixed with the decomposed higher molecular hydrocarbons and avoided the formation of higher molecular tars and coke. The formation of new $=CH_2$ radicles will occur, resulting in a much higher yield of gasoline.

Before discussing the results obtained from my investigations, the theoretical reactions between split higher molecular weight hydrocarbons and split methane should be presented. We take, for example, a higher molecular weight oil whose composition shows an average of $C_{18}H_{26}$. According to our hypothesis this oil will be split as follows: $C_{18}H_{26} \rightarrow 13{=}CH_2 + 5C$. (1) When using methane in the same process the following reaction occurs: $CH_4 \rightarrow {=}CH_2 + 2H$. (2). The freed hydrogen atoms will combine with the unattacked carbon atoms, according to the reaction: $5C + 10H \rightarrow 5{=}CH_2$. (3). The end reaction of these three reactions may be expressed in following manner:

$$C_{13}H_{26} + 5{=}CH_2 = 18\ CH_2{=}.$$

To obtain these reactions, the combination of a cracking unit and a double pyrolysis unit is necessary. In other words, the cracked higher molecular weight hydrocarbons must encounter the double-pyrolysis gas in a reaction chamber where proper conditions rule for the above mentioned reactions. According to my investigations a process is proposed, which is briefly described: Heater A→Chamber B→ Chamber C←Chamber D←Chamber E←Heater F.

The oil is pumped to the heater A, where it attains a temperature of about 800°F., before entering the reaction chamber B; operating pressures in the heater A and in the chamber B are 600 pounds. The reaction chamber is charged with a proper catalyst, whose task is to prolongate the activity of the carbon atoms, this having in consequence a very small precipitation of coke. Natural gas enters countercurrently in the heater F which is designed to give the desired temperature effect. The gas leaves the heater at a temperature of about 1800°F. at a pressure of 300 pounds, and enters the reaction chamber E where the first pyrolysis reaction occur. This gas is then conducted into the reaction chamber D, to be submitted to the second pyrolysis. The chambers and D are charged with the same catalyst used in the above mentioned experiments.

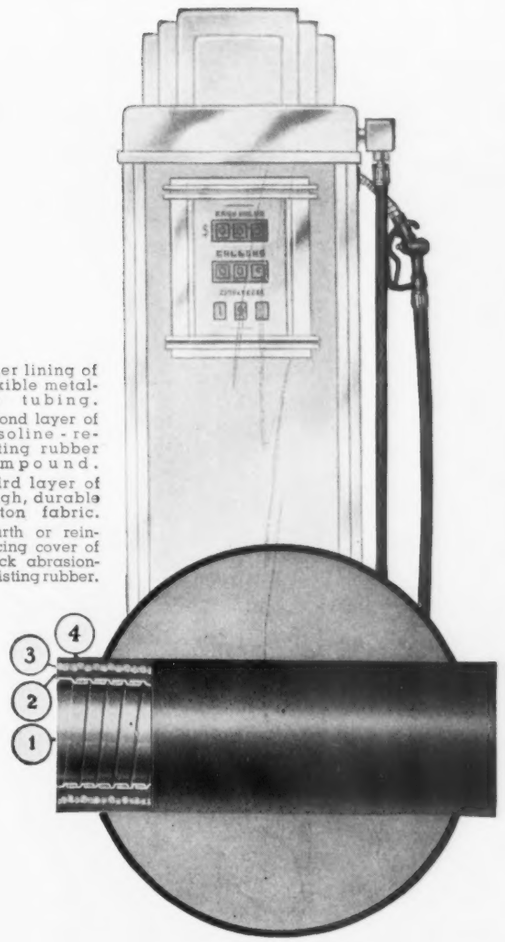
The cracked oil from the reaction chamber B and the double pyrolysis gas from the reaction chamber D pass into the reaction chamber C, where the desirable reactions take place. This combination insures the highest yield of distillate, because instead of precipitation of coke and tar, the split hydrogen from the natural gas acts in this case as a hydrogenation process. A simple illustration of this process compared with other processes is given in the following table:

	Distillate
100 kg of oil submitted to a cracking process yields about	65 kg.
1000 feet of gas submitted to a double pyrolysis yields about	40 kg.
100 kg. of oil and 1000 feet of gas submitted to the proposed process yields about	105 kg.

These investigations show that the decomposition, polymerization and hydrogenation are subject to the same reaction phases, the most important of them being the formation of the $=CH_2$ radicles. Viewing the hydrogenation process in the light of the above we reach to the conclusion that the hydrogenation is nothing but the artificial supply of hydrogen in the reaction chamber to increase the production of $=CH_2$ radicles.

A large part of the fabrication in a refinery is now done by welding, that was formerly machine-shop problems

ADVERTISING PAGES REMOVED


1. Inner lining of flexible metallic tubing.
2. Second layer of gasoline-resisting rubber compound.
3. Third layer of tough, durable cotton fabric.
4. Fourth or reinforcing cover of black abrasion-resisting rubber.
4
3
2
1

Look at all Three

[with apologies to Plymouth Motor Car Co.]

QUADRIPLEXD

Metal Hose & Tubing Company now offers you a choice, but it is a choice that is protected against disappointment through research and test. Whether you purchase the original 3-ply gasoline hose, Triplexd "Metallined" or the new synthetic lined, free-flow hose, Triplexd "Smoothlined", or the super-quality Quadriplexd with its **four** plies of metal, rubber, fabric and rubber, you are sure to be right.

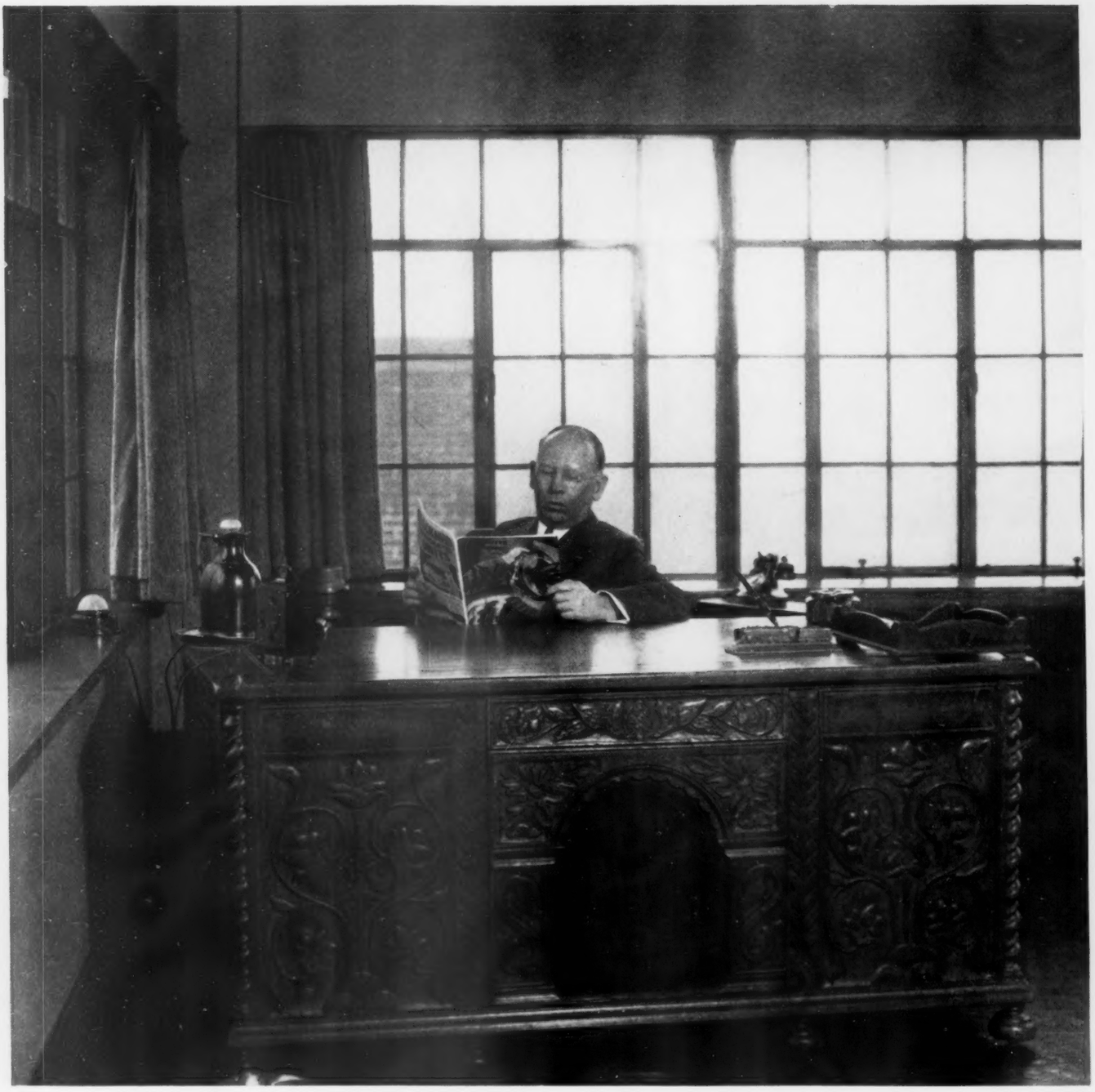
So again we say, look at all three and take your choice. You can't go wrong.

Detailed information will be supplied on request.

METAL HOSE & TUBING CO.
INCORPORATED
253 Tillary Street
BROOKLYN, N.Y.

QUADRIPLEXD
GASOLINE HOSE

His Company Celebrates Fifty Years in Oil



● This year of 1937 is a commemoration period for O. D. Donnell, president of the Ohio Oil Co. Not only does the company celebrate its fiftieth anniversary as an oil enterprise but the town of Findlay, Ohio, headquarters of the Ohio Oil Co. is having its Golden Celebration of the discovery of natural gas in this section of northwestern Ohio, and Mr. Donnell is directing head of its civic celebration, scheduled for June 20-26.

The photograph of Mr. Donnell—incidentally he is reading a copy of N.P.N.—was taken in his office in the company's modern office building in Findlay. While the company operates in many oil fields over the country, its officers have always maintained their residences and chief offices in this attractive Ohio town. See page 43 for more on Findlay's celebration of the finding of gas and oil.